SERVICE MANUAL

SS-50/100

March, 2008

High Power Engine

HER CHEE INDUSTRIAL CO., LTD.

Preface

The Service Manual in reference is provided as the technical information for checking and preparation of **ADLY SS-50/100** scooter and the edit description is given in diagrams with " Operation Sequence ", " Highlights " and " Checking Arrangement " for reference of the service staffs.

The information, illustrations or contents included in this manual may be different with the actual scooter in case specifications are changed. Your understanding will be appreciated.

HER CHEE INDUSTRIAL CO., LTD.

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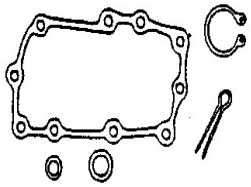
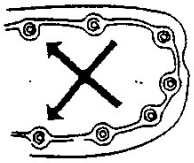
INFORMATION FOR PREPARATION

Attention on Operation

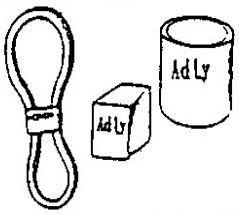
- All washers, oil rings, clamp rings, opening pins shall be duly replaced by a new item when dismounted.



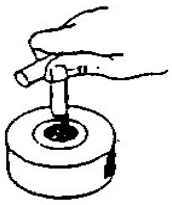
- Locking of all screws, nuts, cross screws shall be performed in the order of first the large screws and then the small ones and from inside to outside in opposite angles by tightening the torque locks.



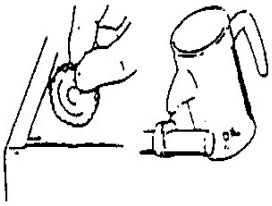
- All items must use original parts, pure oil and greases.



- All service shall use special tools and general tools to repair.



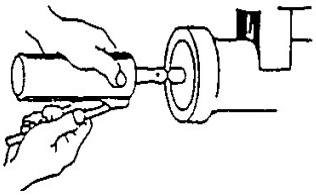
- All dismounted items requiring for checks shall be duly cleaned and for assembly, all items shall be duly lubricated.



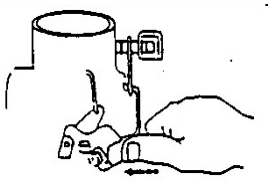
INFORMATION FOR PREPARATION

Attention on Operation

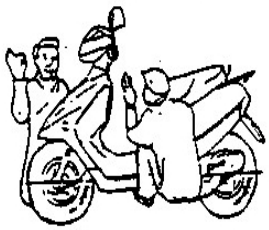
- Certified lubricants in cans shall be used on all the elements to be lubricated.



- After assembly, performance of all elements shall be duly checked and the locking shall be duly verified.



- In case of an operation is performed by over 2 people, the assignment shall be conducted in coordination and safety shall be the first priority.



- Definition of signs:

The sign given in the Service Manual shall refer to the operation methods and observation.

OIL: Lubrication by designated lubricant.

GREASE: Lubrication by grease

Special Tool: Parts on which special tools shall be used

General Tool: General tools shall be used

New: Replace by new items after dismounting

Attention

Dangerous and important operations

INFORMATION FOR PREPARATION

SPECIFICATION

TYPE		SS-50 Ⅰ / Ⅱ	SS-100 Ⅰ / Ⅱ
LENGTH		1780 mm	1780 mm
WIDTH		675 mm	675 mm
HEIGHT		1160 mm	1160 mm
WHEEL BASE		1250 mm	1250 mm
NET WEIGHT		75 kg	75 kg
ENGINE TYPE		4-STROKE, Single Cylinder	4-STROKE, Single Cylinder
COOLING		AIR COOLED	AIR COOLED
DISPLACEMENT		49.26 C.C.	95.57 C.C.
BORE×STROKE		40.0×39.2	52×45
COMPRESSION RATIO		7.2:1	5.8:1
IGNITION		C.D.I	C.D.I
STARTER		ELECTRIC / KICK	ELECTRIC / KICK
SUSPENSION		Hydraulic Shock Absorber	Hydraulic Shock Absorber
TRANSMISSION		AUTOMATIC	AUTOMATIC
TIRE FRONT/REAR	SS (Ⅰ)	120/70-12 (Front & Rear)	120/70-12 (Front & Rear)
	SS (Ⅱ)	120/70-12	120/70-12
FRONT BRAKE	SS (Ⅰ)	Disc	Disc
	SS (Ⅱ)	Double Disc	Double Disc
REAR BRAKE		Drum	Drum
MAX. POWER		2.8Kw / 5500 rpm	5.26kw / 7000 rpm
MAX. TORQUE		4.75N-m / 5500 rpm	7.4N-m / 6500rpm

INFORMATION FOR PREPARATION

LOCKING TORQUE

Adopt the standard torque locking for the item unlisted.

STANDARD TORQUE：

Type	Locking Torque (kg-m)
5 mm Screw	0.4
6 mm Screw	1.0
6 mm Hex Washer Face Bolt / Nut	1.2
8 mm Hex Washer Face Bolt / Nut	2.7
10 mm Hex Washer Face Bolt / Nut	4.0

CHASSIS：

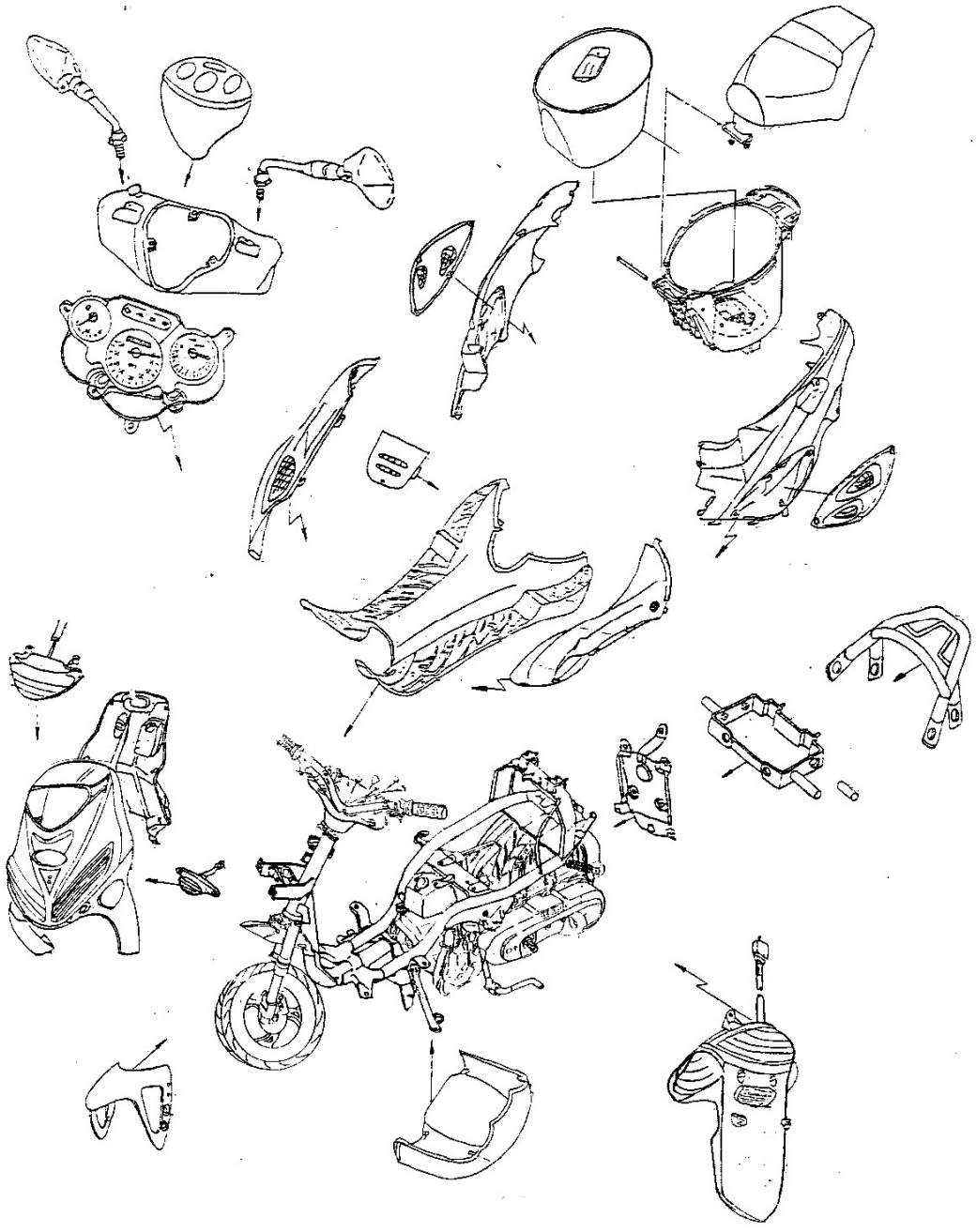
Locking Place	Quantity	Dia. (mm)	Locking Torque (kg-m)
Spanner Nut of Handle Steering Steam	1	25	7.0
Front Wheel Axle Nut	1	10	4.5
Rear Axle Nut	1	14	11
Rear Brake Arm Screw	1	5	0.6
Upper Screw of Rear Shock Absorber	1	10	4.0
Lower Screw of Rear Shock Absorber	1	8	2.7
Engine Mounting Bracket	1	8	6.0

ENGINE：

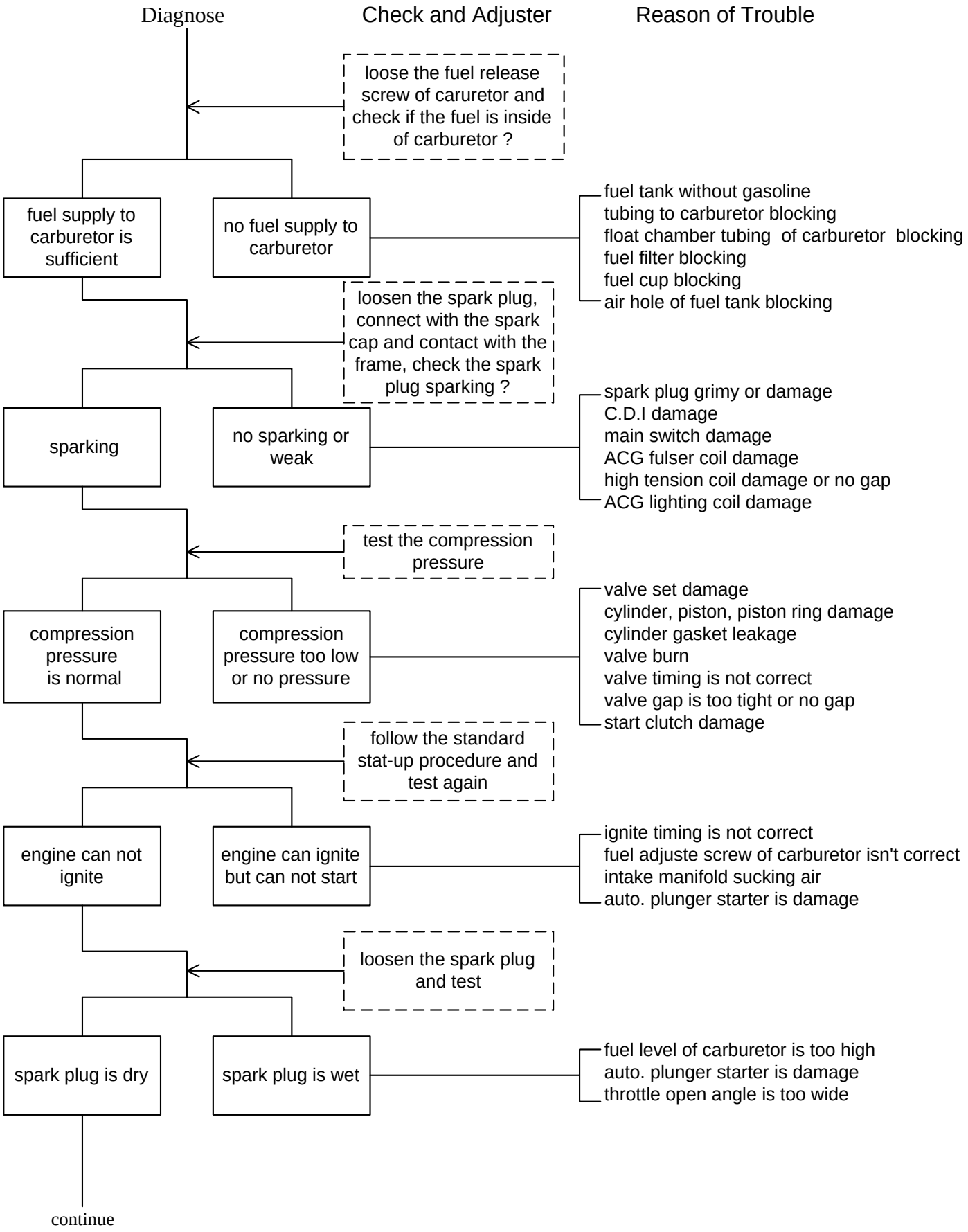
Locking Place	Quantity	Dia. (mm)	Locking Torque (kg-m)
Screw of Cylinder Cap	4	6	1.0
Flywheel Nut	1	10	3.8
Clutch Jacket Nut	1	11	3.8
Driving Disc Nut	1	28	5.5
Nut of Transmission Disc	1	10	3.8
Oil-check Screw	1	8	1.3
Joint Screw of Exhaust Manifold	2	6	1.2
Exhaust Pipe Support Screw of Muffler	2	6	1.2
Spark Plug	1	14	1.4
Bolt of Crank Shaft Case	6	6	10
Bolt of Engine Installation	1	8	5.0

INFORMATION FOR PREPARATION

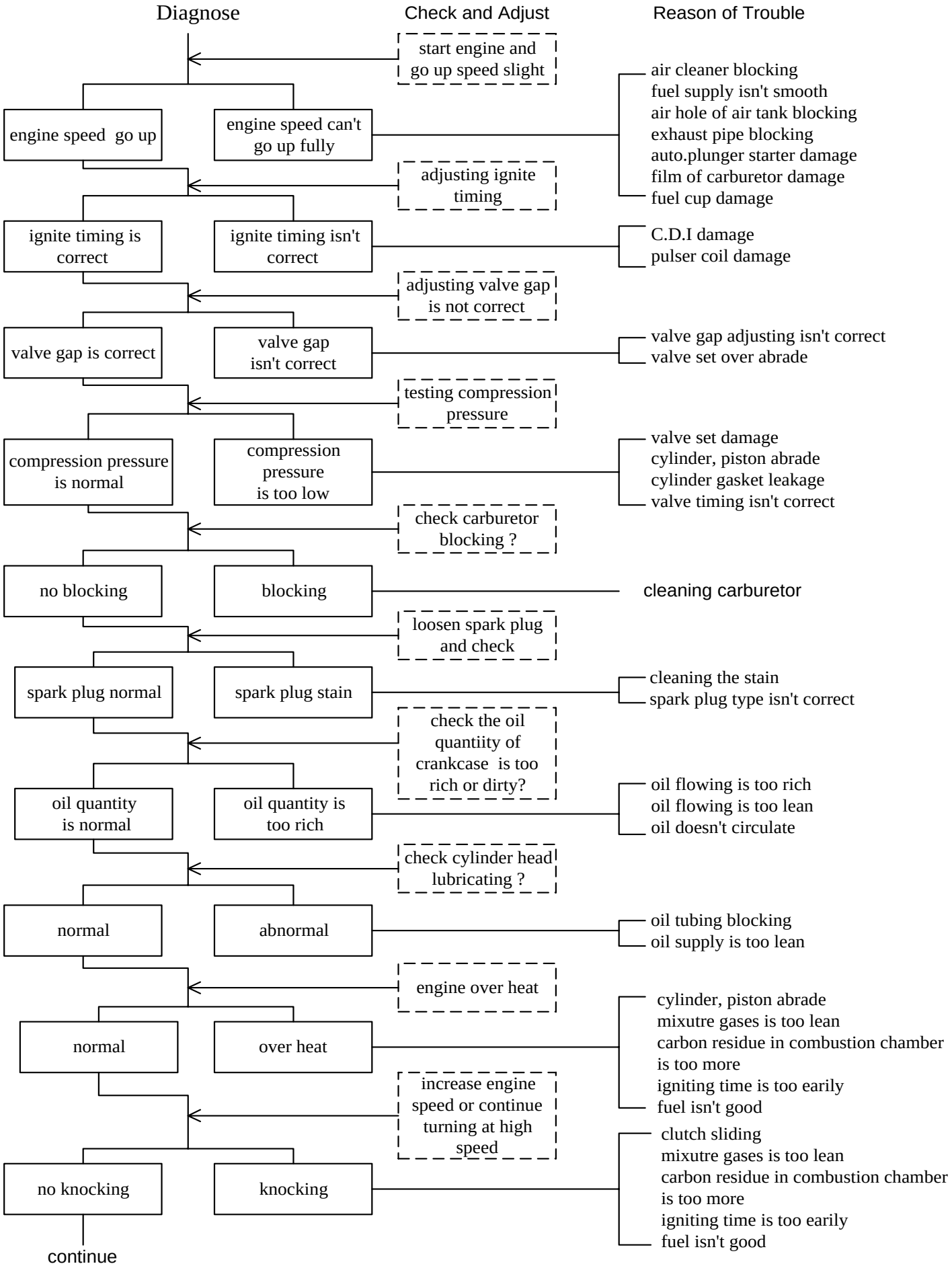
The following drawing that shows the disassembling situation of the cover parts for SS50/100 scuuter.



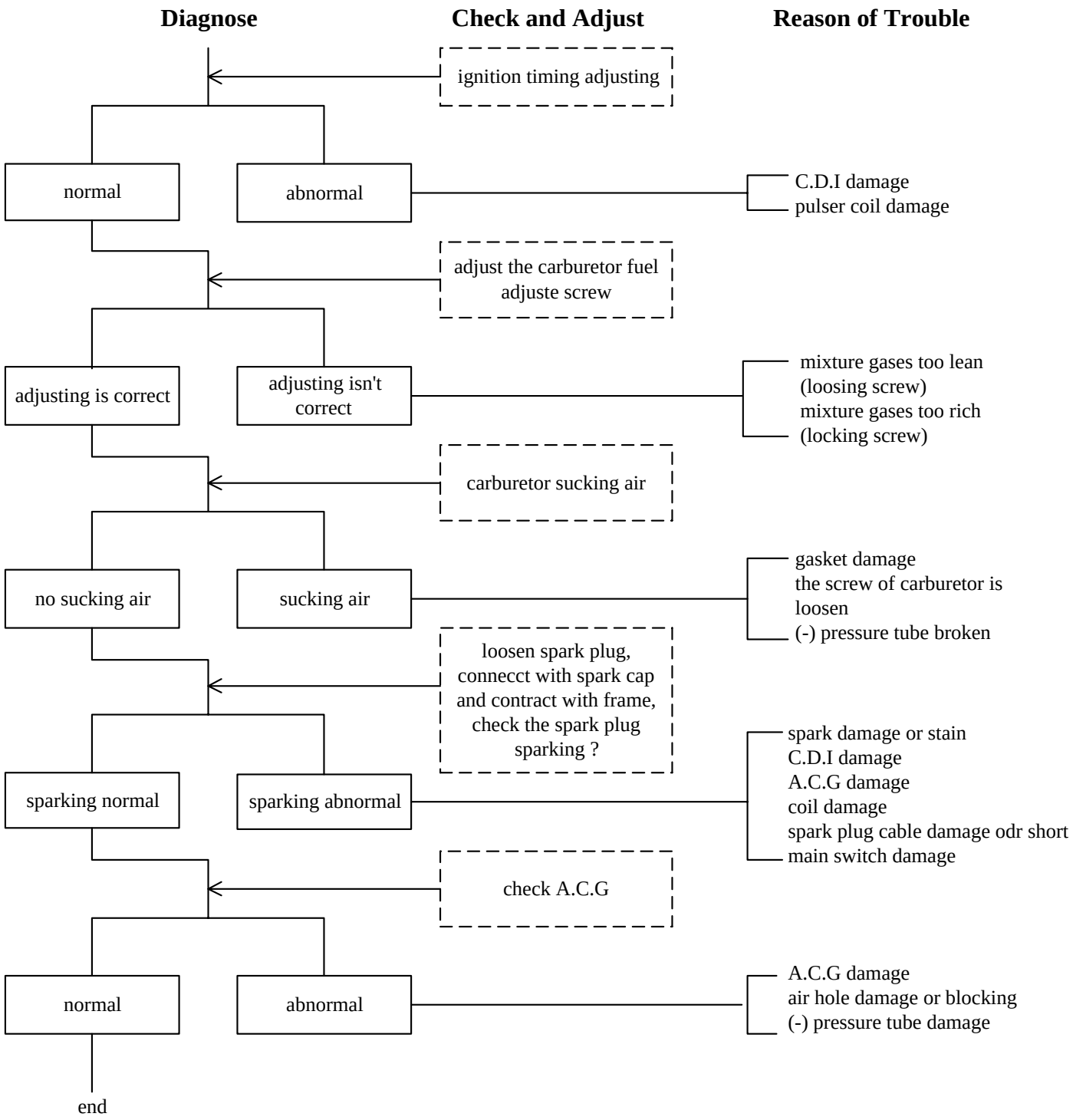
INFORMATION FOR PERPARATION
DIFFICULT START OR CANN'T START


Diagnose
Check and Adjuster
Reason of Trouble
loose the fuel release screw of caruretor and check if the fuel is inside of carburetor ?
fuel supply to carburetor is sufficient
no fuel supply to carburetor
fuel tank without gasoline
tubing to carburetor blocking
float chamber tubing of carburetor blocking
fuel filter blocking
fuel cup blocking
air hole of fuel tank blocking
loosen the spark plug, connect with the spark cap and contact with the frame, check the spark plug sparking ?
sparking
no sparking or weak
spark plug grimy or damage
C.D.I damage
main switch damage
ACG fulser coil damage
high tension coil damage or no gap
ACG lighting coil damage
test the compression pressure
compression pressure is normal
compression pressure too low or no pressure
valve set damage
cylinder, piston, piston ring damage
cylinder gasket leakage
valve burn
valve timing is not correct
valve gap is too tight or no gap
start clutch damage
follow the standard stat-up procedure and test again
engine can not ignite
engine can ignite but can not start
ignite timing is not correct
fuel adjuste screw of carburetor isn't correct
intake manifold sucking air
auto. plunger starter is damage
loosen the spark plug and test
spark plug is dry
spark plug is wet
fuel level of carburetor is too high
auto. plunger starter is damage
throttle open angle is too wide
continue

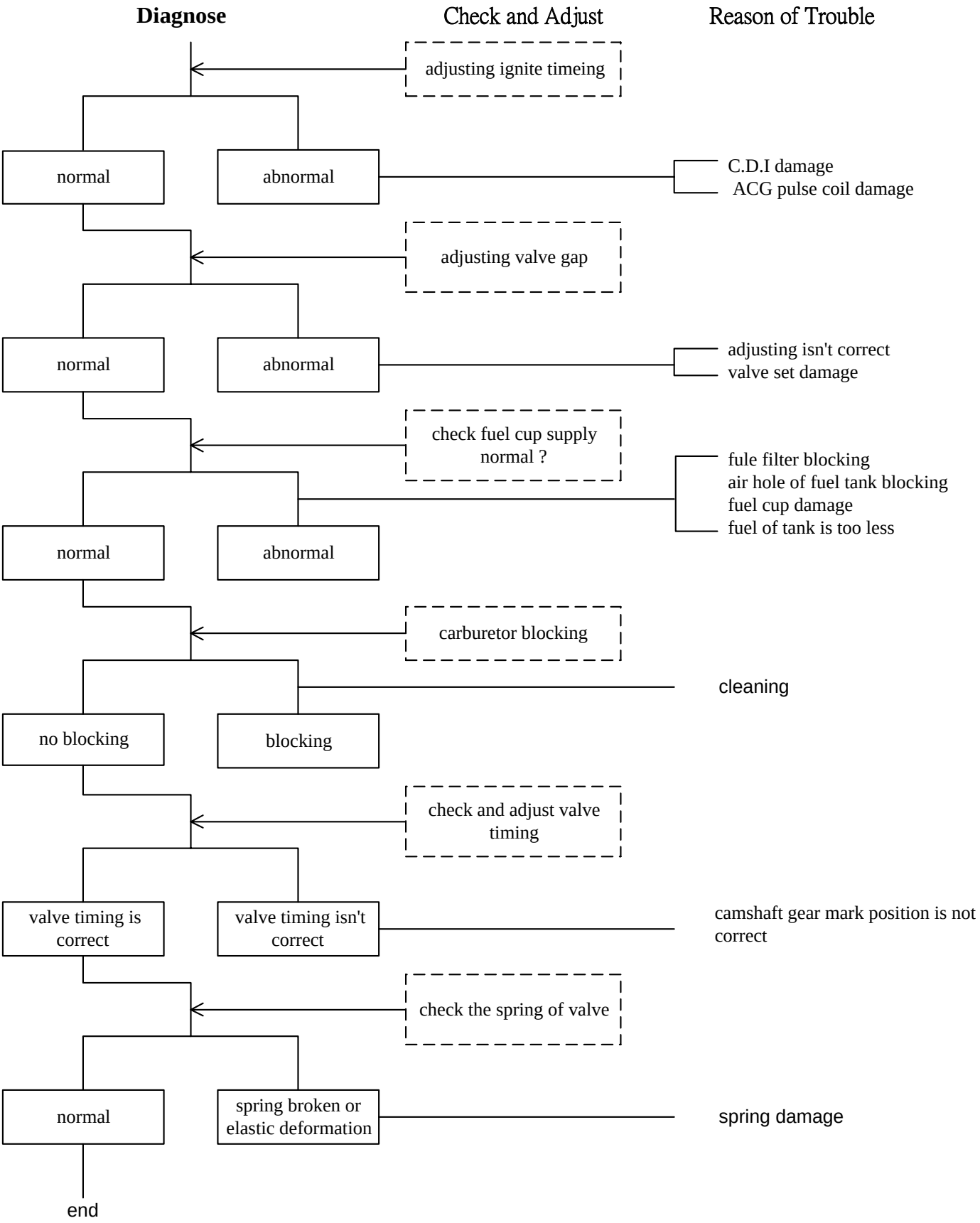
INFORMATION FOR PREPARATION
REVOLUTION NOT SMOOTH , LOST POWER



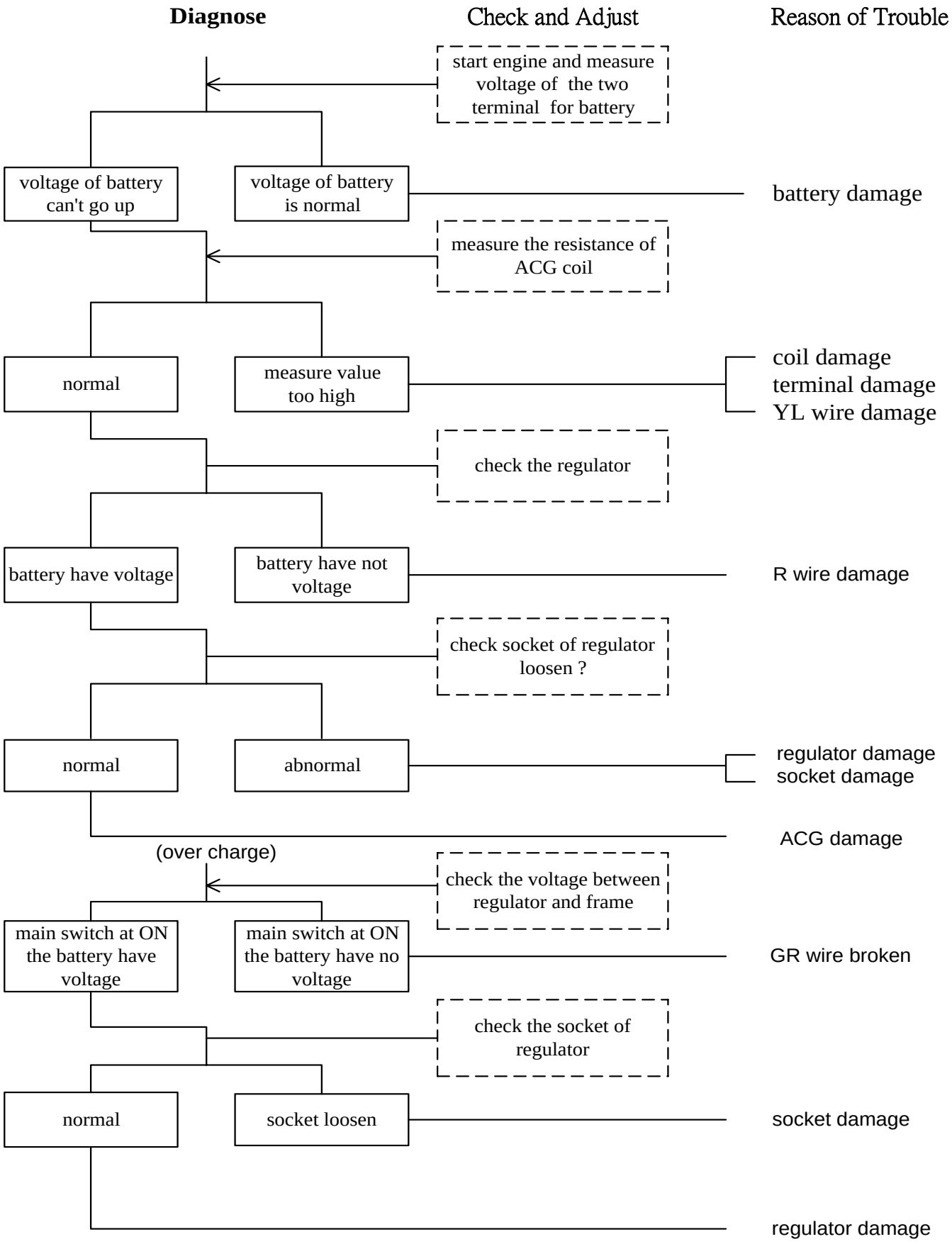
INFORMATION FOR PREPARATION
REVOLUTION NOT STABLE (LOW R.P.M.)



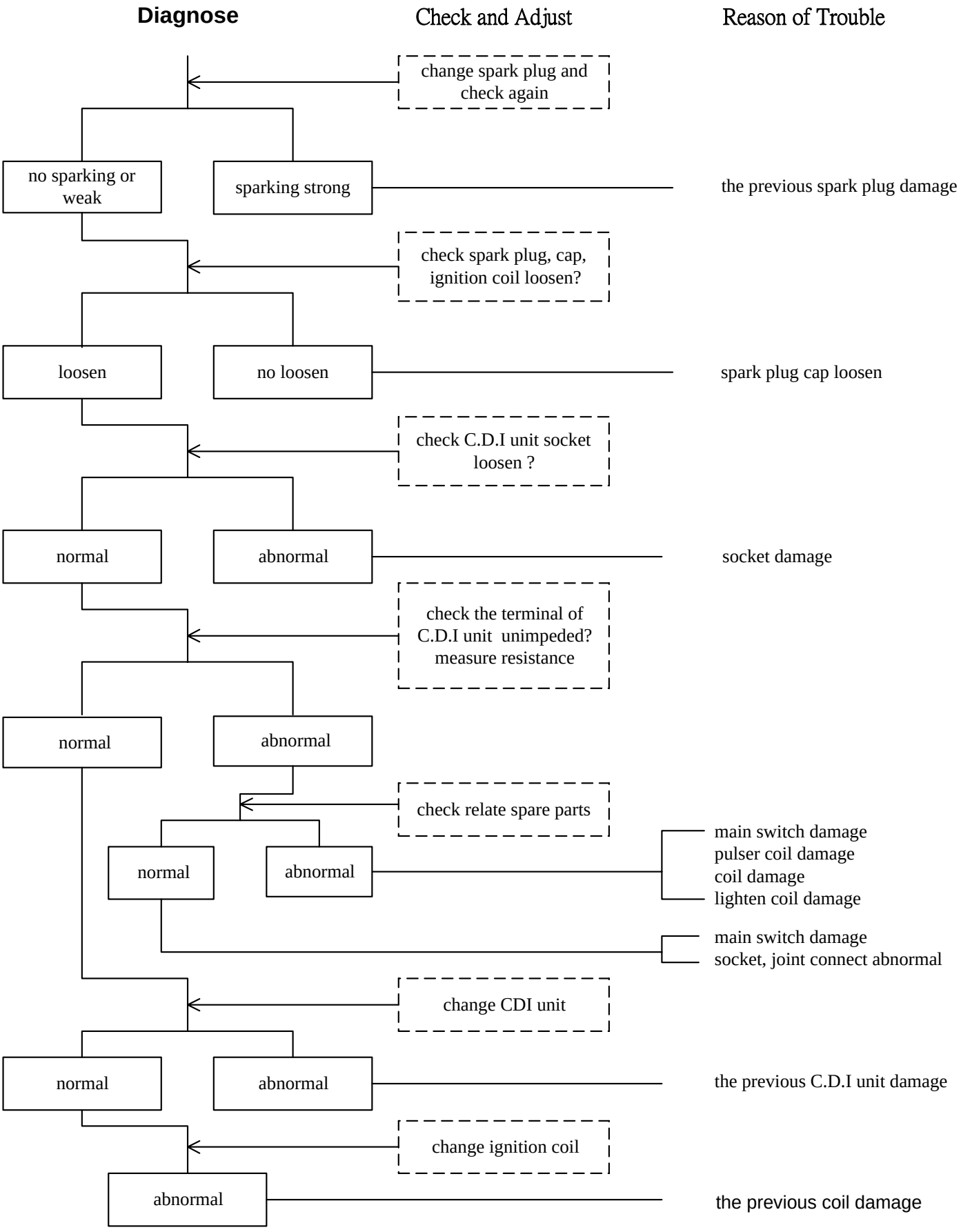
INFORMATION FOR PREPARATION
REVOLUTION NOT SMOOTH(HIGH SPEED)



INFORMATION FOR PREPARATION
CHARGE ABNORMAL



INFORMATION FOR PREPARATION
SPARK PLUG NO SPARKING



CHECK AND ADJUST

Way of Check & Adjustment

1. Mark "○" is checking time.
2. Mark "☆" is the regular exchange of service items.
   This exchange time is just for general riding of the majority not for the special use , please arrange with this principle according to the difference of the riding condition.

Service Items	Service Time (month)				Judgement Standard	Remarks
	Before riding	1 st	each 6	each 12		
Operating Device						
Handle- Play, loose/tight				○		
Operation				○		
Wheels- Right/left turn round angle				○		
Front Fork-Damage			○	○		Direction Post
Installation of shaft			○	○		Direction Post
Shaft Gap				○		
Brake Device						
Brake- Play			○	○	Play Handle , handle front 10-20 mm	
Try to run	○		○	○		
Correct brake	○	○	○	○		
Wires- Loose / tight and damage		○	○	○		
Gap of casing & brake			○	○		
Wore of brake & operating parts				○		Direction
Wore & Damage of casing				○	Standard diameter 110 mm Limitation 110.5mm	
Riding Device Tires-Air pressure of tires	○		○	○	front / rear air pressure 1.5 kg/cm / 1.75 kg/cm tire 120/70-12 / 120/70-12	

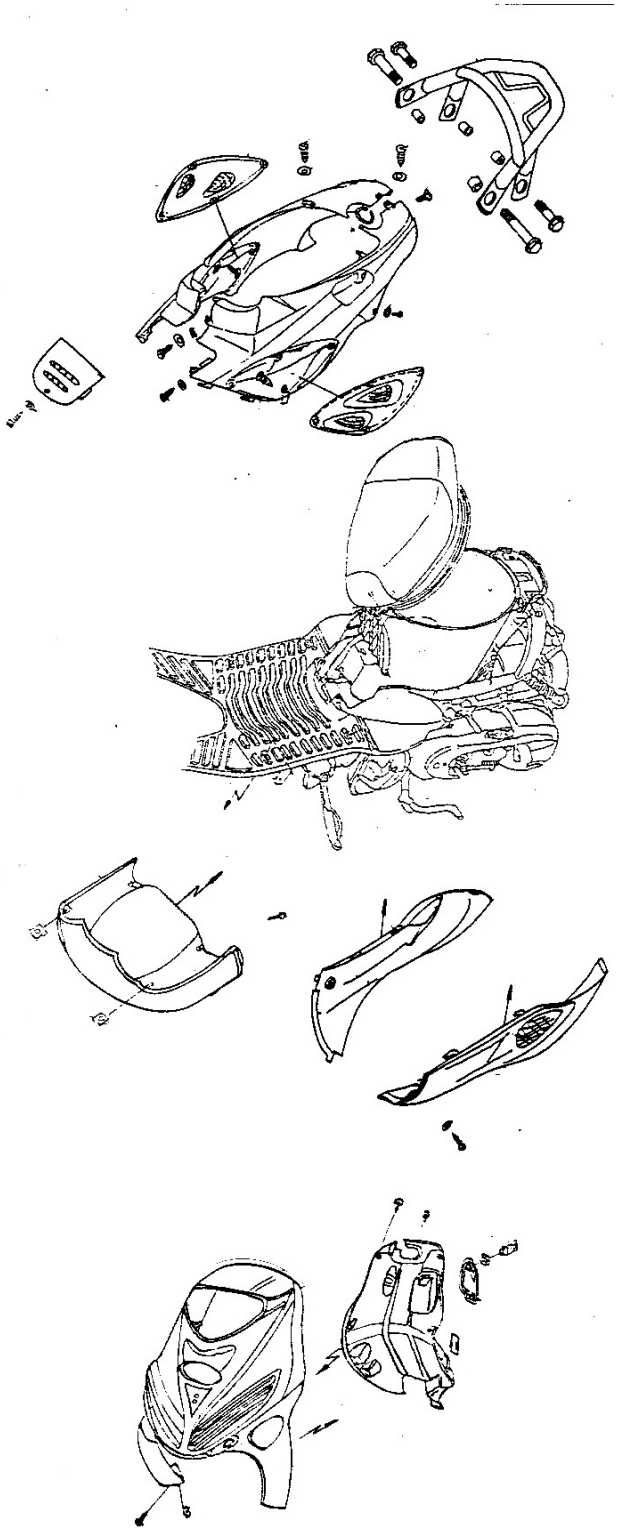
Riding Device Tire						
Check & damage of tires	○		○	○	Ditch-front wheel till 0.8mm Rear wheel till 0.8 mm	
Abnormal & ditch in tires	○		○	○		
Bolt & nut of tires locking			○	○	Flocking torsion Front wheel – 4.0~5.0 kg-m Rear wheel –10~12 kg-m	
Damage of felly ,side ring , disc		○	○	○	Vibration of felly, in edge of felly Front wheel – horizontal under 2.0 mm vertical under 2.0 mm Rear wheel – horizontal under 2.0 mm vertical under 2.0 mm	
Tightness of front bearing				○		
Tightness of rear bearing				○		
Buffer device						
Spring -damage				○		Spring of shock absorber
Suspension arm – damage of joint gap & arm				○		
Buffer -oil leakage or damage				○		
Tightness of installation				○		
Power transmission device						
Clutch -action		○	○	○		
Transmission			○	○	Level : way of direction hole , oil fill to the mark of the hole	It's rear Gear case
Electril device						
Ignition device -condition of ignition spark plug			○	○	Gap of spark plug 0.6~0.7 mm	
Battery -connection of terminal				○		
Wiring of electrical appliance – damage or loose in connection place				○		

Check Items	Before riding	1 st M	6 M	12 M	Judged standard	remarks
Engine						
Body – starting & abnormal noise low speed & accelerating exhaust air filter		○	○ ○ ○ ○	○ ○ ○ ○	Idle : 1800±100 rpm	
Lubrication device						
Oil and oil filter			○	○	Warning light lighting	
Oil leakage			○	○		
Oil level	○					
Fuel installation						
Gasoline filter is dirty				○		
Leakage of fuel			○	○		
Throttle gate & choke				○		
Fuel filter is clogged				○		
Oil level	○					
Alteration of pipes					▬ each 2 years	
Lights & direction lights						
Action			○	○		
On/off normal , dirty , damage	○					
Rear mirror – view	○			○		
Reflector & license tag –dirty & damage						
Instrument –action				○		
Exhaust pipe & muffler						
Installation loosed or damage				○		
Function of muffler				○		
Frame & body –loose or damage				○		
Abnormal from previous day –confirm normal	○					
Others - greasing of each part			○	○		
Cleaning combustion chamber , exhaust pipe , and carbon muck in muffler				○		

CHECK AND ADJUST

Disassembly of External Parts

- Remove the external parts for check and adjustment.



- Remove 4 hex washer face bolts, 4 space tubes , and then remove luggage carrier.
- Remove 12 self-tapping screws and 2 pan flat bolts.
- Remove central cover ,L/R side cover, decoration strip and cowling.
- Install with the reverse sequence.

WARNNING:

9. Do not break the union of body and pedal.
9. Before locking screws , please confirm the matching correct of all parts.

- Front cover.
- Remove 3 pan flat bolts , 1 hex bolt.
- Remove 12 self-tapping screws.
- Disconnect the light connectors.
- Install with the reverse sequence.

WARNNING:

9. Do not damage & break the joint of inner body and front damper.
9. Before locking screws , please confirm the matching correct of all parts.

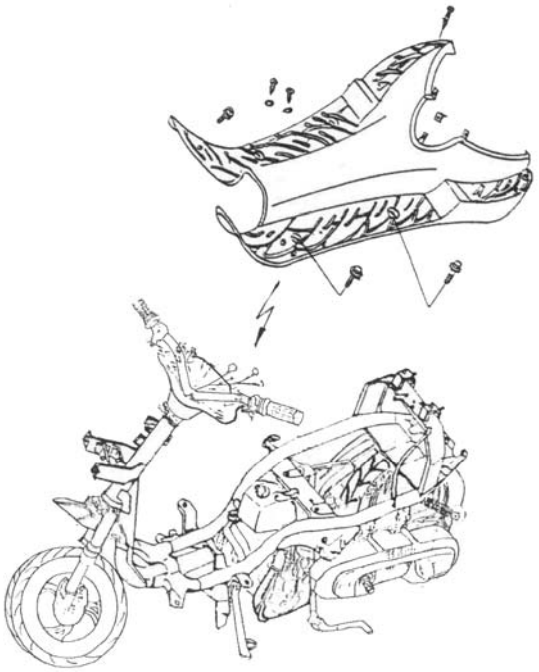
CHECK AND ADJUST

Disassembly of Pedal

- Remove L/R body cover.
- Remove 4 bolts, 6 self-tapping screws 2 pan flat bolts.
- Separate the joint with luggage case (claw & groove)and remove the pedal
- Install with the reverse sequence.

WARNNING:

9. Installing to the luggage box after composing confirming the pedal with the joint of luggage case correctly.

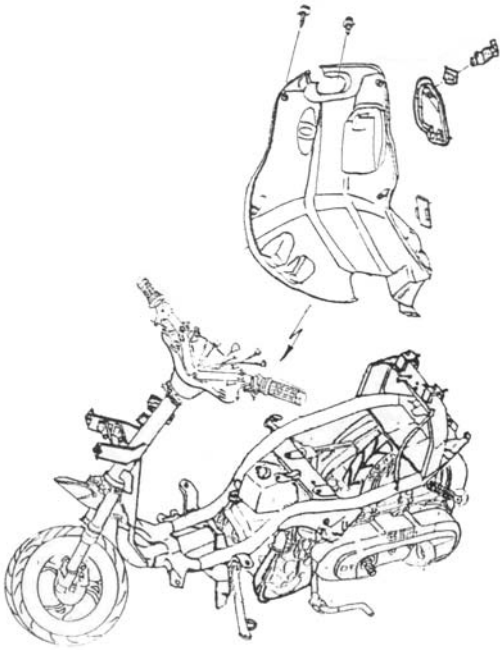


Disassembly of Luggage Case

- Remove front fender.
- Disconnect the light connectors.
- Remove power switch cap.
- Remove edge nut on luggage case.
- Install with the reverse sequence.

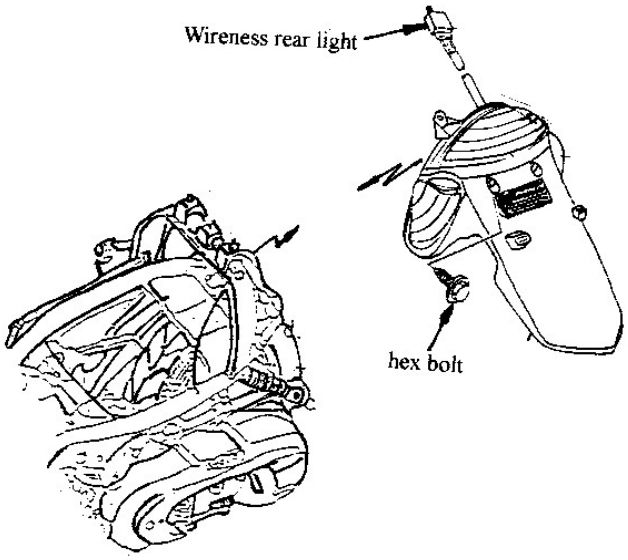
WARNNING:

9. Going on the installation operation after jointing correctly the luggage case and front fender.



CHECK AND ADJUST

Rear Light Assembly

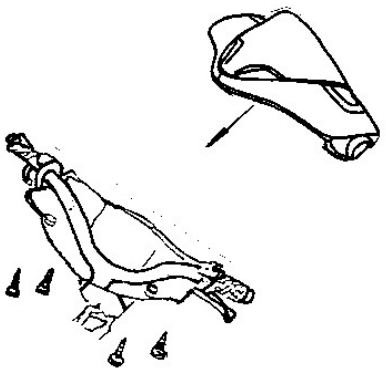


- Remove 2 hex bolts.
- Remove 3 L/R sides body cover.
- Disassembly the connection head of wireness rear light.
- Assembly with the sequence in reverse of disassembly.

WARNNING:

9. Ensuring the joint of tail light hole correct with the bulge of truck.

Handle Covering



- Remove 4 self-tapping screws , separate the joint with speedometer.
- Remove the handle covering.
- Assembly with the sequence in reverse of disassembly.

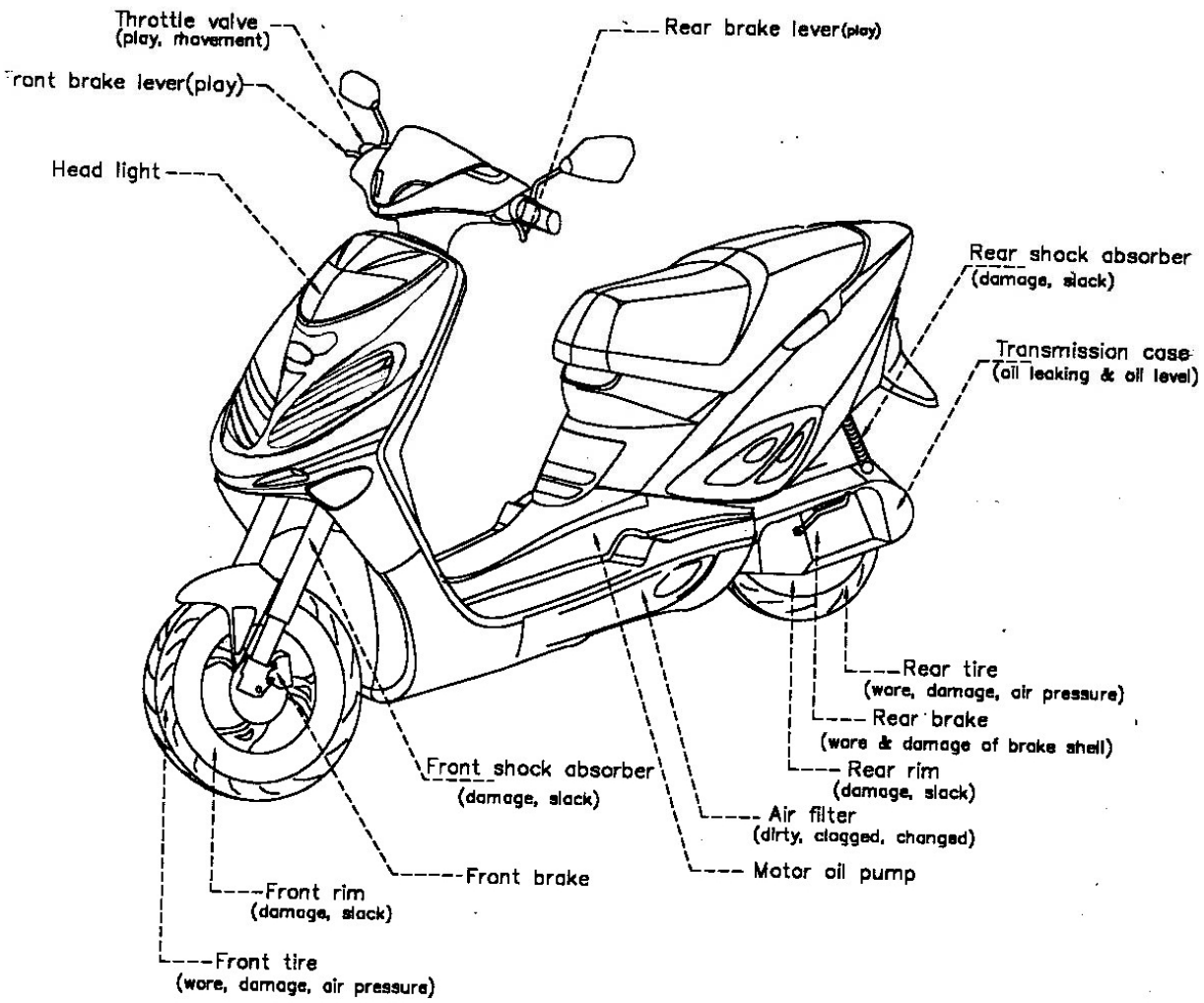
WARNNING:

9. Aim handle covering correctly the handle covering back's joint.

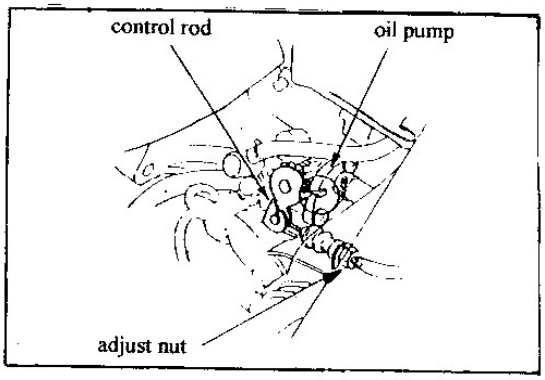
CHECK AND ADJUST

Layout of Parts Maintenance

The location of main parts of maintenance are showed as follows :



Adjustment of Motor Oil Pump



7 ***WARNNING:***

Going on this operation after adjusting and checking the guide wiring of throttle.

- The tolerance within 1 mm of the adjust O/P control cable is good. Starting the engine, turn slightly the throttle to feed motor oil idle-speed. At same time of rising the rotation of engine, confirm the working of control rod.

- The condition will be appeared with bad synchronizing as follows :
  - 9 Starting difficult and having smoke when opening degree of motor oil pump's connection rod is too big.
  - 9 Piston will be burnt when the opening degree of motor oil pump's connection rod is too small.

MENO

INSTALLATION OF LUBRICATION

Attention of Operation

- Pay attention to avoid dust enter to the interior of engine and motor oil pipe when disassembly the motor oil pump.
- Never disassembly motor oil pump.
- Must draw out the air on the pump if there have air in the pump when disassembly pipe of carburetor.
- After disassembling the motor oil connection tube, must fulfill the motor oil in the connection pipe, then, connect the tube.

Diagnosis of Troubles

Too much smoke, means too much carbon muck piping up the spark plug.

- Poor synchronizing adjust of motor oil pump (too much exhaust).
- Bad quality of engine motor oil.

Overheating

- Poor synchronizing adjustment of motor oil pump (too much exhaust).
- Bad quality of engine motor oil.

Piston burnt

- Short of engine oil, or engine oil pipe is clogged.
- Poor adjustment of motor oil pump (lesser the exhaust).
- There have air in the motor oil pipes system.
- Bad motor oil pump.

Clogging oil from oil tank

- Vent of motor oil case’s cap is clogged.
- Filter of motor oil is clogged.

Preparation standard

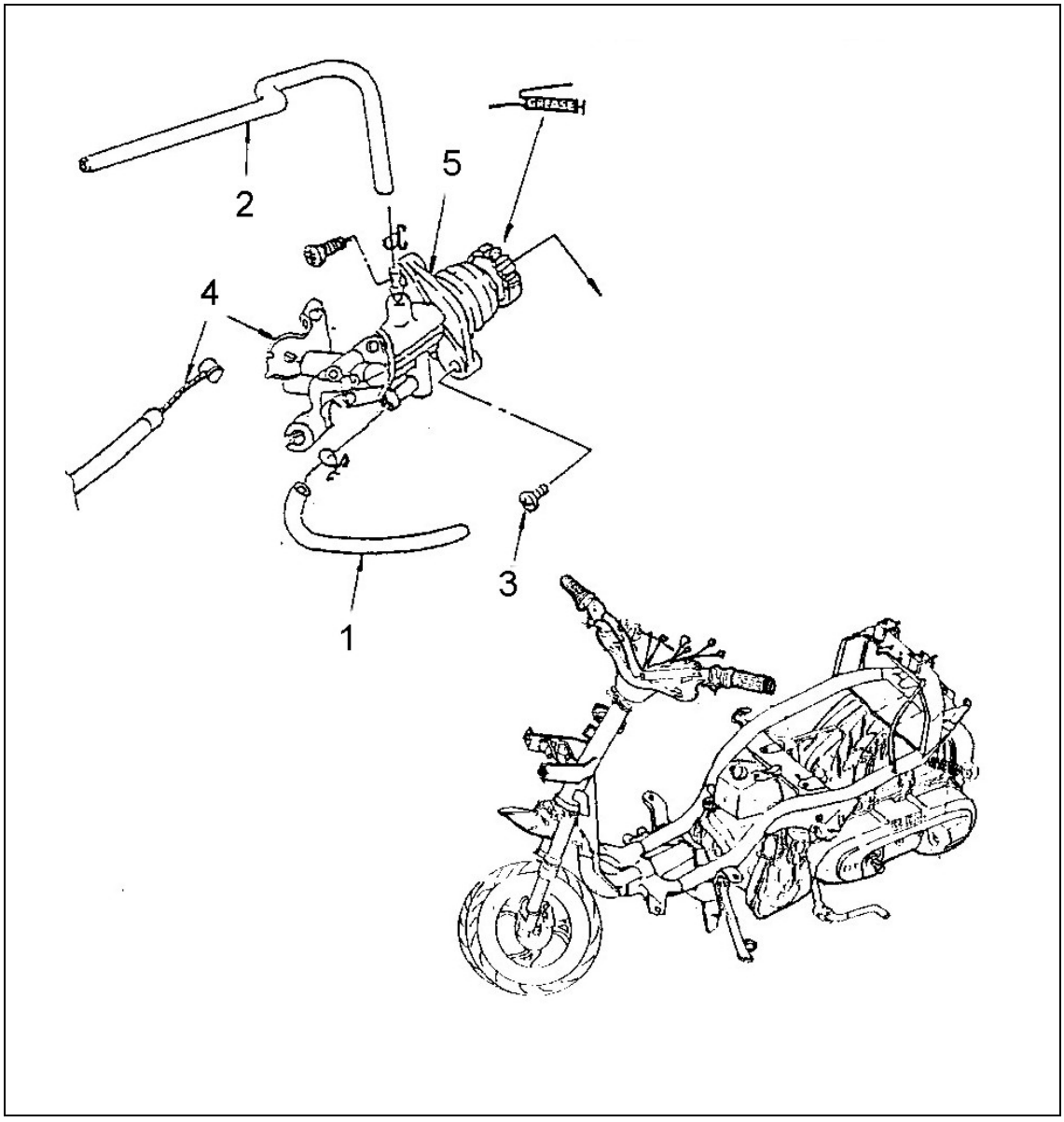
- Use separating motor oil appointed (use for 2-stroke).
- Content of motor oil tank : 1.1 liter

INSTALLATION OF LUBRICATION

Disassembly of Motor Oil Pump

• Remove right side cover.
• Remove stator cover.
• Remove A.C.G

f ***WARNNING:***
Operating after cleaning motor oil pump around and no entering to the crank shaft case.

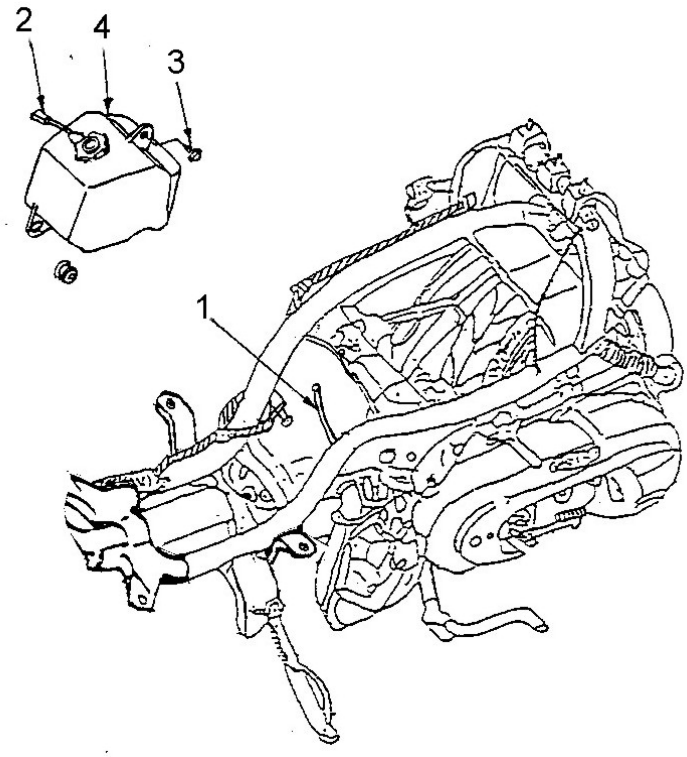


INSTALLATION OF LUBRICATION

	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
1	Fuel pipe	1	f ***WARNNING:*** Clogging the pipe with clamp or plug for avoiding fuel flow out.
2	Fuel connection pipe	1	• Remove from both side of motor oil pump.
3	Pan phillips bolt	2	
4	Control cable	1/1	• Remove from oil pump.
5	Motor oil pump	1	
Assembly 5→1			• Assembly with sequence in reverse of disassembly. f ***WARNNING:*** –Smear motor oil to new O ring ,then, assembly motor oil pump. –The oil pump must installed correctly into crank case. f ***WARNNING:*** –Don't loosen adjusted screw on control cable, but must adjust oil pump after assembling if need to loosen.

INSTALLATION OF LUBRICATION

Disassembly of Oil Tank



	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
1	Joint of oil disassembly oil pipe	1	∗ ***WARNNING:***
2	Joint of wires	1	Fill motor oil with clean container.
3	Bolt	1	
4	Oil tank	1	
5	Grommet	1	
	Assembly 5→1		• Operation with sequence in reverse of disassembly. ∗ ***WARNNING:*** Connect correct oil pipe after assembly , release the air in motor oil pump.

FUEL INSTALLATION

Attention in Operation

- Pay attention to the parts which using gasoline.
- Pipes & Cable must be in accordance with the location directed of wiring diagram.
- Release air in motor oil pump when remove motor oil pipe.

Diagnosis of Trouble

No starting

- No gasoline in tank
- Gasoline blocked
- Too much fuel in cylinder
- Air filter is clogged

Idle speed unstable , of carburetor rotation not smooth

- Poor idle speed adjustment of carburetor.
- Low compression pressure
- Poor ignition system
- Bad adjustment of air adjusting screw on carburetor
- Air filter is clogged
- Poor auto side-plunger on carburetor
- Idle speed nozzle is clogged

Mixed air too thin

- Nozzle of carburetor is clogged
- Gasoline filter is clogged
- Vent of gasoline tank is clogged
- Gasoline pipe cranked, broke, clogged
- Poor action of valve of float chamber
- Gasoline level too low
- Air pipe is clogged

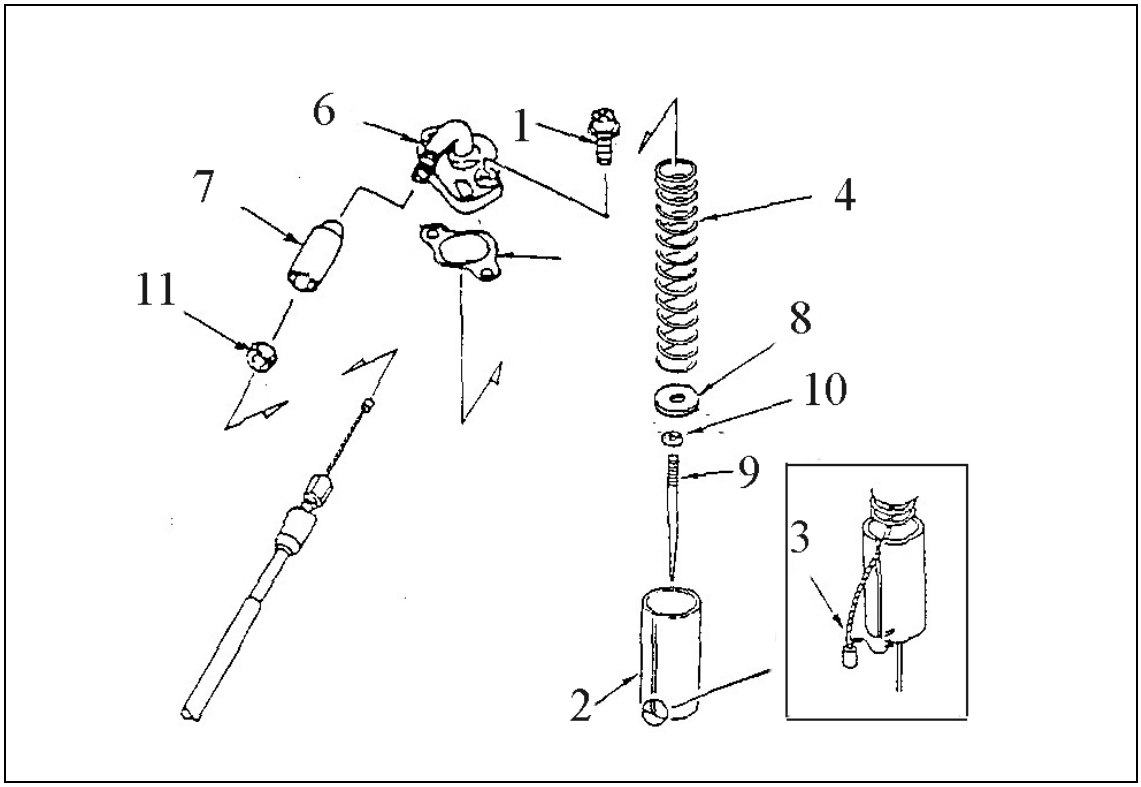
Mixed air too thick

- Poor action of valve of float chamber
- Gasoline level too high
- Air nozzle is clogged
- Auto side-plunger poor

FUEL INSTALLATION

Disassembly / Assembly Valve Of Throttle

- Disassembly of left body covering
- Adjustment of play of throttle
- Adjustment of reverse rotation of idle speed



	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
1	Pan phillips bolt	2	∗ ***WARNNING:***
2	Throttle valve	1	Loosing top cap of carburetor, and
3	Throttle cable	1	removing.
4	Throttle valve spring	1	
5	Carburetor washer	1	∗ ***WARNNING:***
6	Throttle cover	1	Remove from guide wire of throttle
7	Sealing set	1	valve.
8	Washer	1	
9	Needle nozzle	1	
10	Clamp	1	
11	Adjusted screw	1	

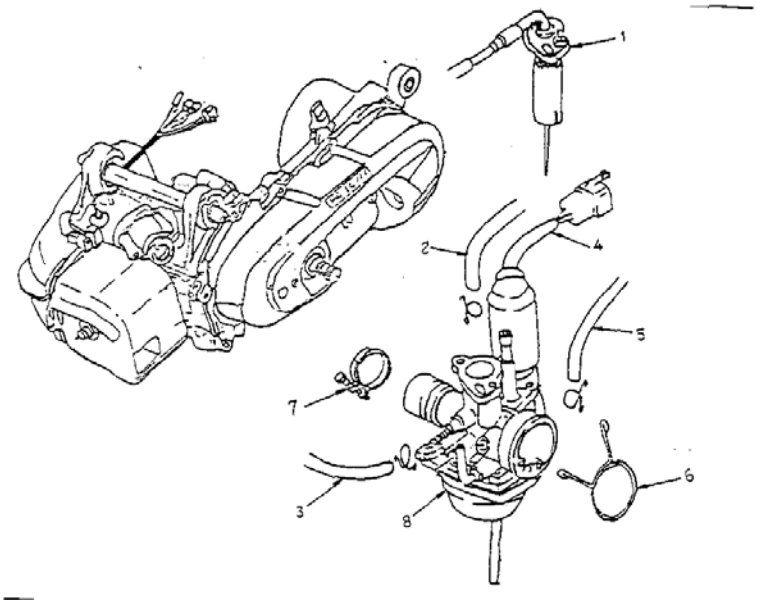
FUEL INSTALLATION

	Operation / Parts Name	Q'ty	Remarks
	Assembly		
11	Adjusted screw	1	
10	Clamp	1	∗ ***WARNNING:*** Assembly of needle nozzle.
9	Needle nozzle	1	∗ ***WARNNING:*** Assembly of throttle valve.
8	Washer	1	
7	Sealing set of guide wire	1	∗ ***WARNNING:*** Assembly of throttle cable.
6	Throttle cover	1	
5	Washer	1	
4	Throttle valve spring	1	
3	Throttle cable	1	
2	Throttle valve	1	∗ ***WARNNING:*** Aim the ditch of throttle valve to chamber then install throttle valve into carburetor.
1	Pan Phillips bolt	1	Lock the throttle cover.

FUEL INSTALLATION

Disassembly of Carburetor

- Remove the air cleaner ass'y .
- Remove the left body cover



	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
1	Throttle valve set	1	
2	Gasoline pipe	1	
3	Motor oil joint	1	
4	Starter wire of carburetor	1	
5	Vacuum pressure tube	1	
6	Clip	1	
7	Intake manifold hose clamp	1	
8	Carburetor	1	
	Assembly		
	8→1		∗ ***WARNNING:*** Don't let dust enter into carburetor.
3	Motor oil joint		∗ ***WARNNING:*** Release air.

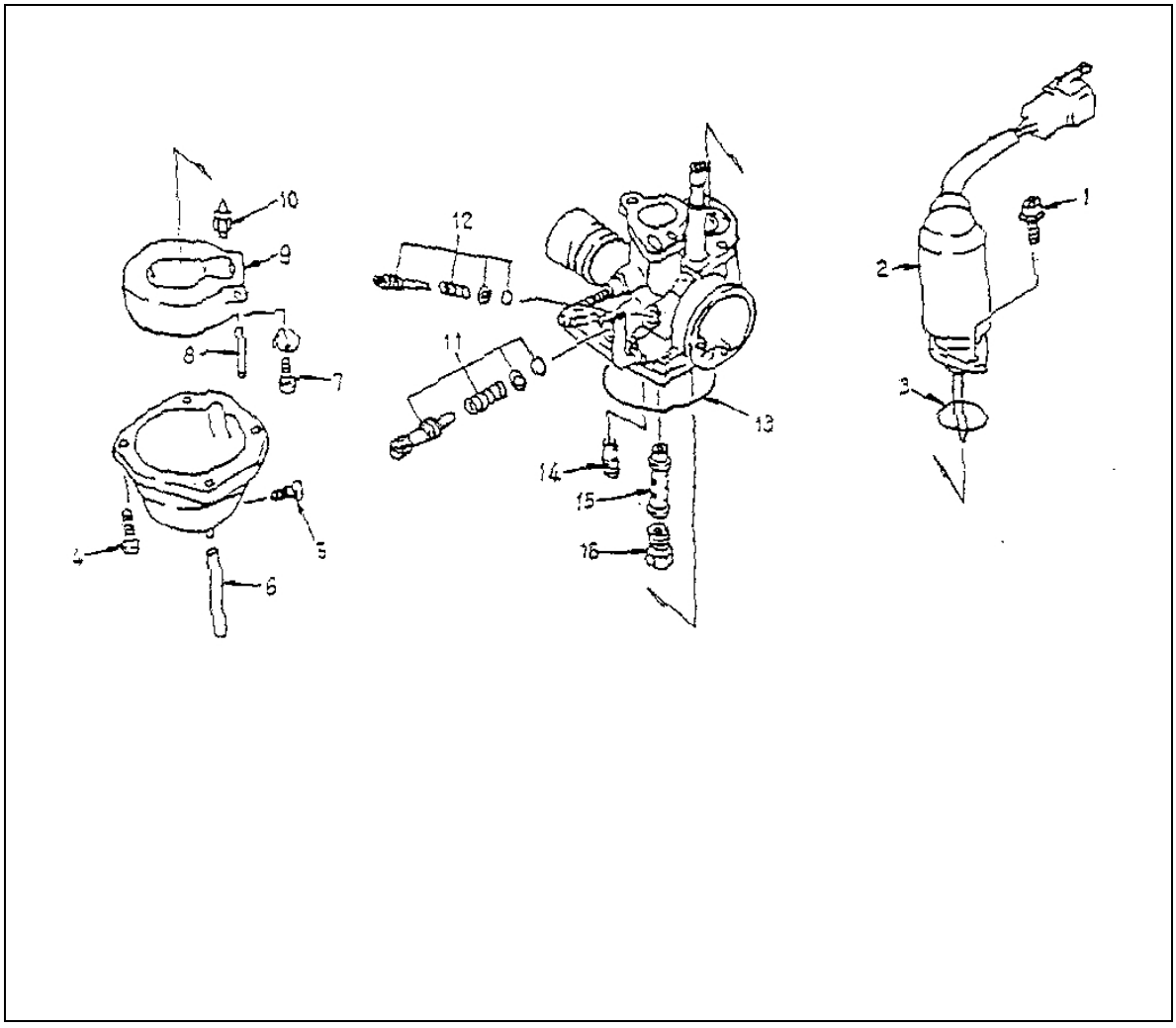
FUEL INSTALLATION

Disassembly / Assembly Carburetor

- Disassembling of carburetor.
- Adjust the idle speed.
- Adjust the air adjust screw.

∗ ***WARNNING:***

- No fire.
- Before disassembling, loose oil-draining screw, draining out the gasoline from carburetor.



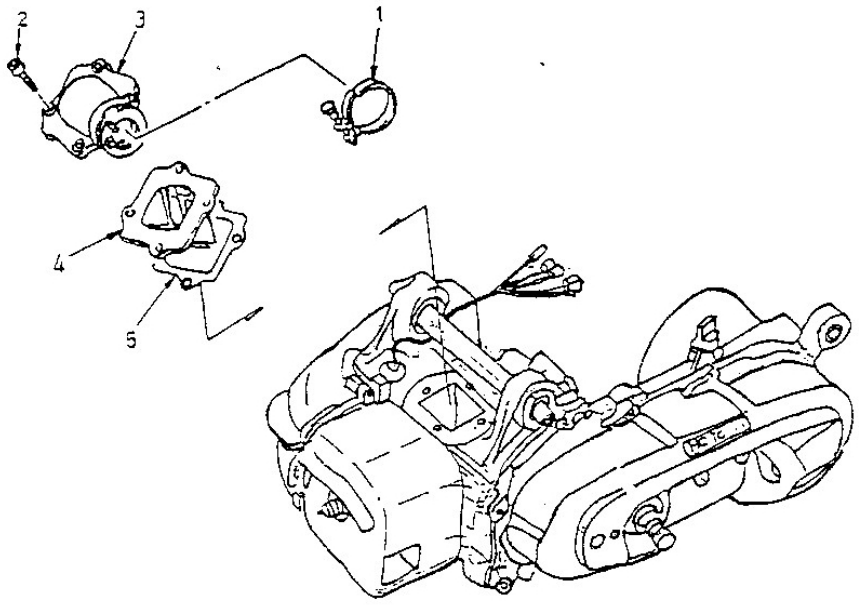
FUEL INSTALLATION

	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
	Plunger starter		
1	Pan Phillips bolt	2	
2	Start plug screw	1	
3	Oil ring	1	
	Float Chamber		
4	Pan Phillips bolt	4	
5	Drain plug	1	
6	Over flow tube	1	
7	Pan Phillips bolt	1	
8	Float pin	1	
9	Float	1	
10	Needle valve	1	
	Carburetor Ass'y		
11	Throttle screw set	1	
12	Air adjust screw set	1	∗ ***WARNNING:*** Must confirm rerotation location before disassembling , not locking too much avoid to hurt seat face.
13	Float chamber seal		
	Assembly		• Operating with sequence in reverse of Disassembling.
	13→1		
12	Air adjust screw set		∗ ***WARNNING:*** use high pressure air clean each way of carburetor.
			∗ ***WARNNING:*** must adjust air screw when changing air screw and carburetor ass'y.

FUEL INSTALLATION

Disassembly of Inlet Valve

- Disassembly of body cover.
- Disassembly of carburetor.



	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
1	Intake manifold hose clamp	1	
2	Hex washer face bolt	4	
3	Intake manifold	1	
4	Reed valve ass'y	1	
5	Reed valve gasket	1	
	Assembly		• Assembling with sequence in reverse of disassembly.
	5→1		f ***WARNNING:*** Using new washer , the
4	Reed valve ass'y		washer must aim at hole of reed
5	Reed valve gasket		valve.
			f ***WARNNING:*** confirm no secondary air entering after installing.

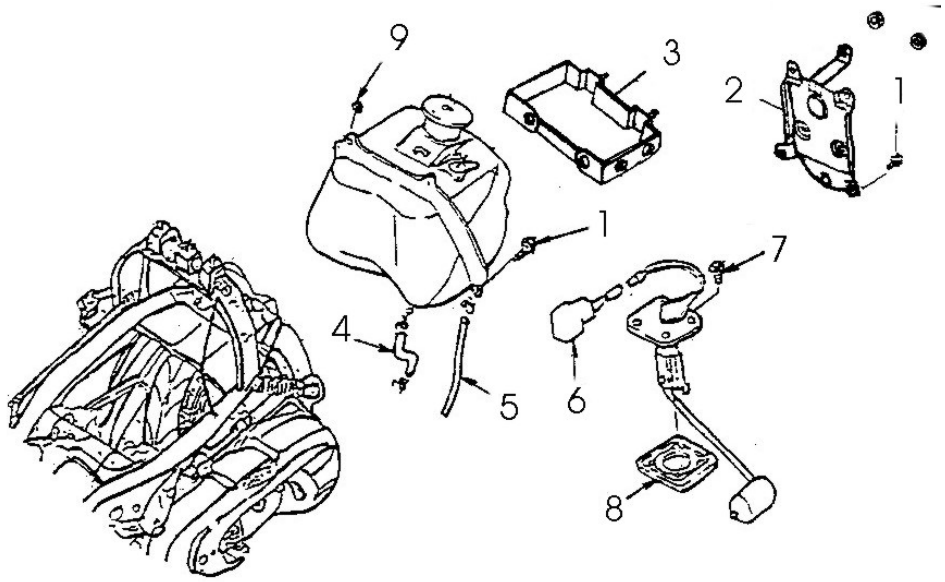
FUEL INSTALLATION

Disassembly of Fuel Tank

- Disassembly of body cover.
- Disassembly of tail light fix bracket.
- Disassembly of inner carrier.

∗ ***WARNNING:***

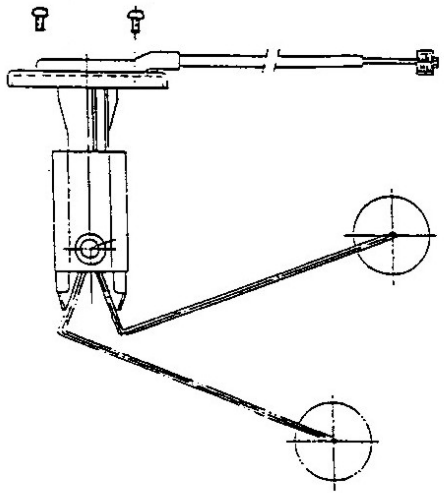
- No fire.
- Shall be wiped off when fuel overflowed.



	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
1	Hex bolt	4	
2	Tail light fix bracket	1	
3	Inner carrier	1	
4	Oil tube	1	
5	Tube	1	
	Petrol gauge ass'y	1	∗ ***WARNNING:*** Clip the tube, avoid fuel over-flow.
6	Joint of petrol gauge wire	4	
7	Round phillips bolt	1	
8	Oil lever gauge gasket	4	
9	Hex flat head phillips bolt		
	Assembly 9→1		• Operating with sequence in reverse of disassembly.
8	Oil lever gauge gasket	1	• Change new one.

FUEL INSTALLATION

Disassembly of Petrol Gauge



- Disassembling wire joint of petrol gauge and remove 4 hex phillips bolt.

∗ ***WARNNING:***

Don’t damage petrol gauge wires.

- Remove the petrol gauge.

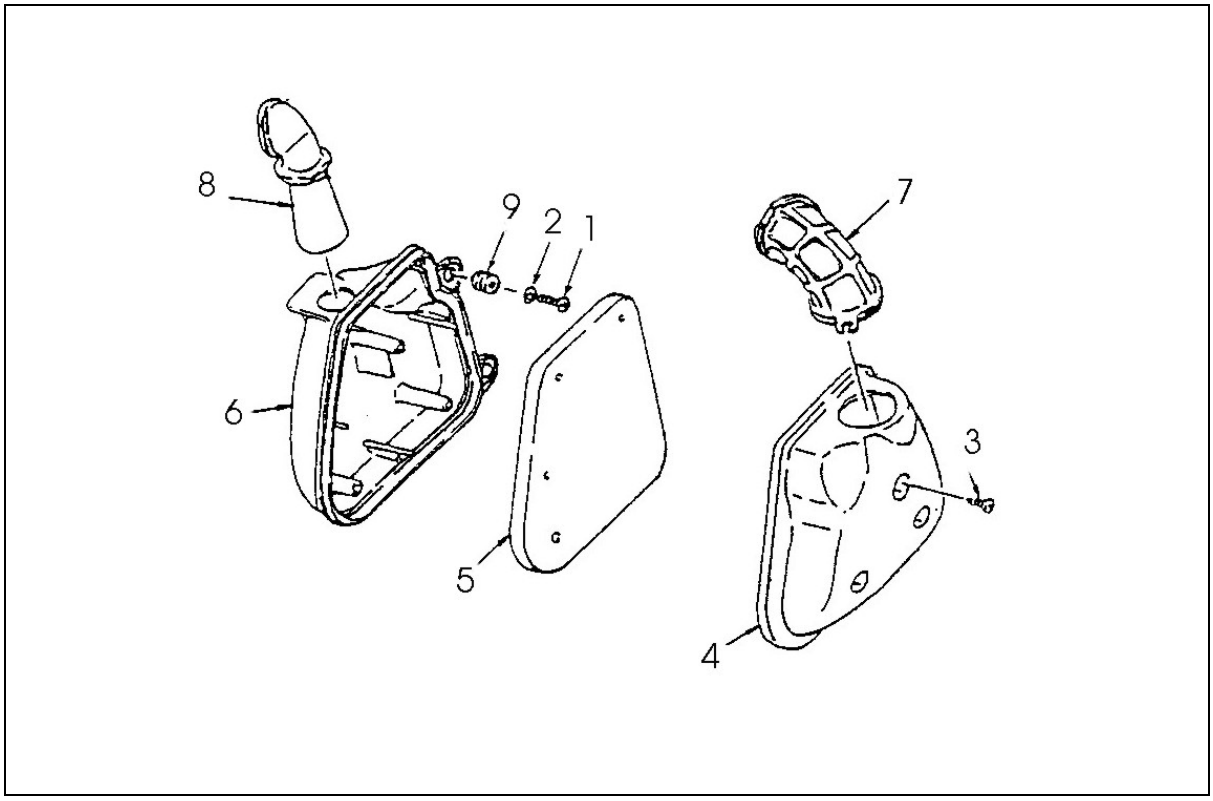
∗ ***WARNNING:***

Don’t curving float arm of petrol gauge.

- Operation with sequence in reverse of disassembly.

FUEL INSTALLATION

Disassembly of Air Cleaner



	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
1	Hex socket bolt	2	
2	Plain washer	1	
3	Self-tapping screw	3	
4	Air cleaner case cap	1	
5	Air cleaner element	4	
6	Air cleaner case	1	
7	Air cleaner joint	1	
8	Cleaner guide pipe	2	
9	Grommet	1	
	Assembly 9→1		• Operating with sequence in reverse of disassembly.

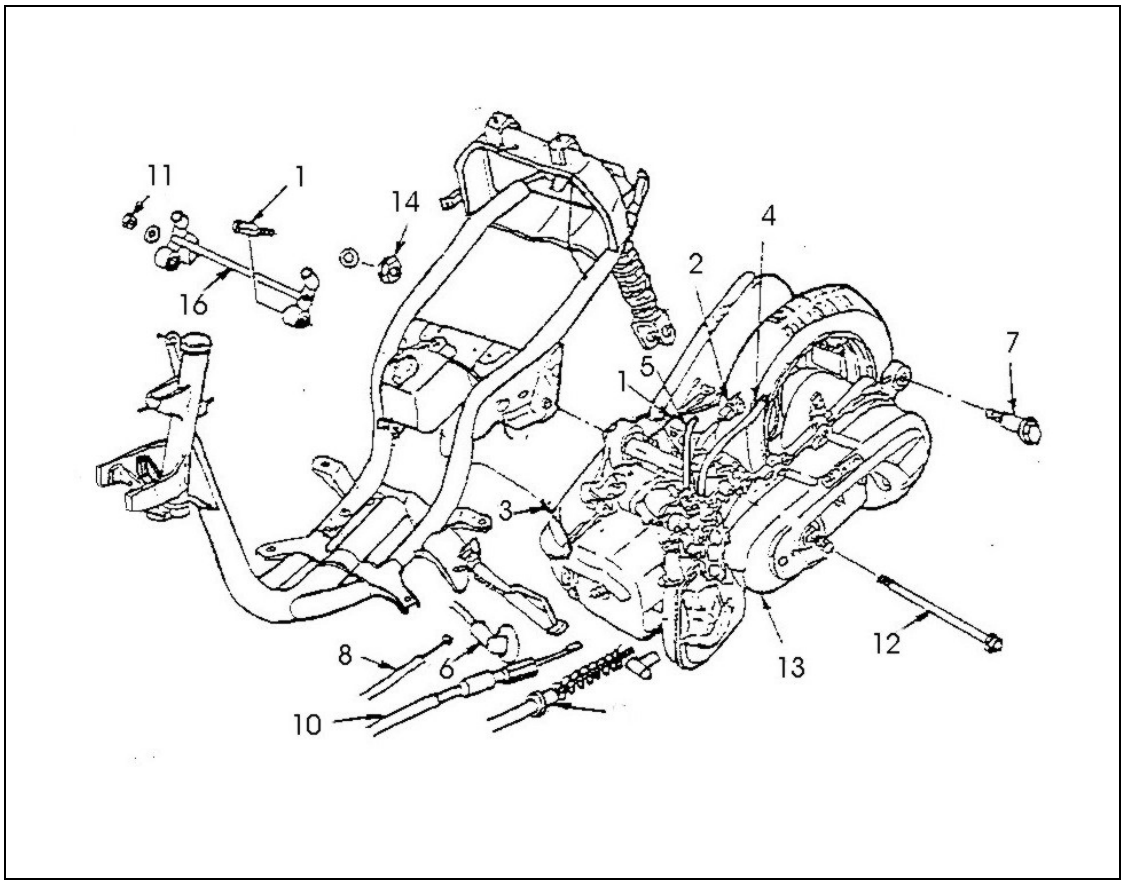
DISASSEMBLY OF ENGINE

Attention of Operation

- Operation after disassembling the engine.
  - Crank shaft case
  - Crank shaft
  - Exchange bearing of final transmission mechanisms.

Disassembly of Engine

- Disassembly of external cap of body.
- Disassembly of luggage case.
- Disassembly of throttle valve.
- Adjustment the throttle cable.
- Adjustment the rear break cable.
- Adjustment the oil pump control cable.



DISASSEMBLY OF ENGINE

	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
1	ACG wire /wire of start motor	2	∗ ***WARNNING:***
2	Starter wire of carburetor	1	The oil over-flow when remove the
3	Oil tube	1	oil tube , so use clip or plug stop the seal.
4	Fuel tube	1	
5	Vacuum pressure tube	1	
6	Cap of spark plug	1	
7	Hex washer face bolt of rear cushion	1	
8	Oil pump control cable	1	
9	Cable of rear brake	1	
10	Throttle cable	1	
11	Hex washer face bolt of engine	1	
12	Bolt	1	
13	Engine	1	∗ ***WARNNING:***
14	Nut	1	• Don't damage rear fender when remove the engine.
15	Engine bracket bolt	2	
16	Engine bracket	1	• Actually for brace the frame, avoid body turn inside out.
	Assembly 16→1		∗ ***WARNNING:*** Carry out following adjusting after installation. – Cable of throttle valve – Oil pump control cable – Rear break cable

CYLINDER HEAD / CYLINDER / PISTON

Attention of Operation

- Can be operated when engine installed on vehicle.
- Must cleaning before operating , avoiding dust enter the engine.
- Remove the gasket dust stay on joint face.
- Avoid to use driver harm the joint face when remove the cylinder & cylinder head.
- Avoid to harm the cylinder inner and piston face.
- Cleaning before check parts, and smear motor oil appointed in sliding face before installing.

Diagnosis of Troubles

Low compression pressure , poor start , idle speed not stable

- Air leakage of cylinder head washer.
- Wear & damage the piston ring.
- Wrong installation of spark plug
- Wear & damage the cylinder and piston.
- Inlet valve poor.

Compression pressure too high, overheating, locking

- Piling up carbon of cylinder head or piston head.

Piston Noise

- Wear the cylinder and piston.
- Wear the piston pin hole and piston pin.
- Wear the needle bearing of crank connecting rod (small end) .

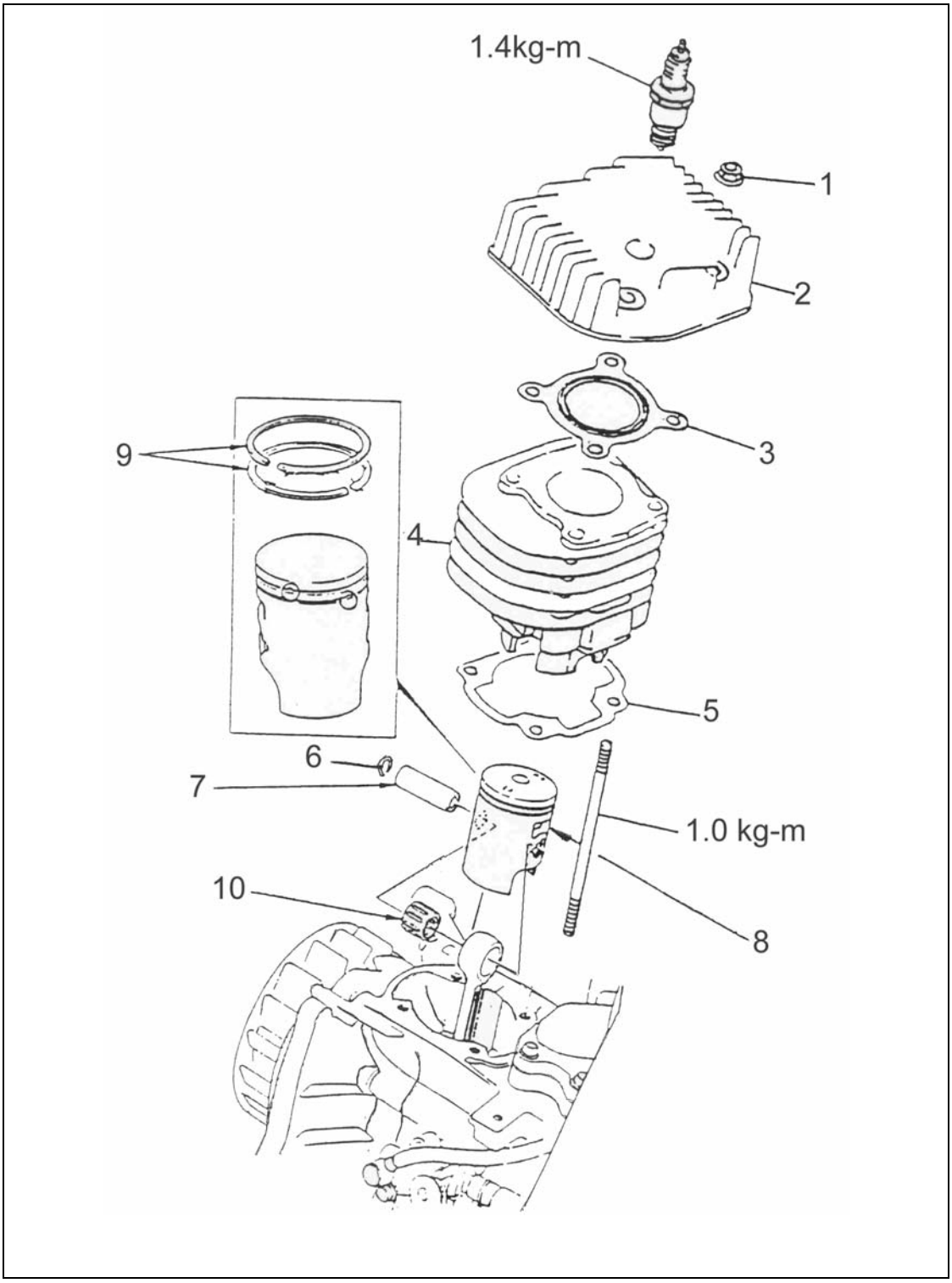
Piston ring noise

- Wear or damage the piston ring.
- Wear or damage the cylinder.

CYLINDER HEAD / CYLINDER / PISTON

Disassembly of Cylinder Head / Cylinder / Piston

- Disassembly of cover (→4-7)
- Disassembly of muffler (→11-2)
- Disassembly of generator cover (→12-7)
- Disassembly of spark plug cap (→5-2)

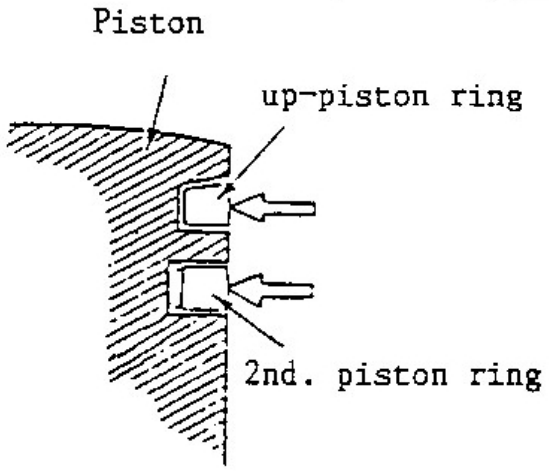


CYLINDER HEAD / CYLINDER / PISTON

	Operation / Parts Name	Q'ty	Remarks
	Disassembly		
	Cylinder head		
1	Nut of cylinder head	4	f ***WARNNING:*** Loosing nut 2-3 times.
2	Cylinder head	1	
3	Cylinder head gasket	1	
	Cylinder		
4	Cylinder	1	f ***WARNNING:*** Don't knock cooling fin.
5	Cylinder gasket	1	f ***WARNNING:*** Clean and not damage cylinder & washer of crank shaft case.
	Piston		
6	Piston ring clip	2	
7	Piston pin	1	
8	Piston	1	
9	Piston ring	2	
10	needle bearing of small side	1	
	Assembly 10→1		• Operation with sequence in reverse of disassembly.

Installation of Piston Ring

- Install top-piston ring & 2nd piston ring in piston.
- Do not scratch piston and do not bend piston rings.
- Remove carbon muck inside ring ditch and piston ring when not installed.
- Be sure the rings rotate freely after install into piston.



f ***WARNNING:***

Change whole set of piston ring with same brand.

Starter / Driving Disc / Clutch / Transmission Disc

Attention of Operation

- Don’t make greases stick to surface of transmission belt or belt plate. Otherwise , the efficiency of power transmission will be lowered by skid.
- Don’t rotation the starter when remove the front cap of left crankshaft case.

Diagnosis of Trouble

Vehicle does not move after engine start up

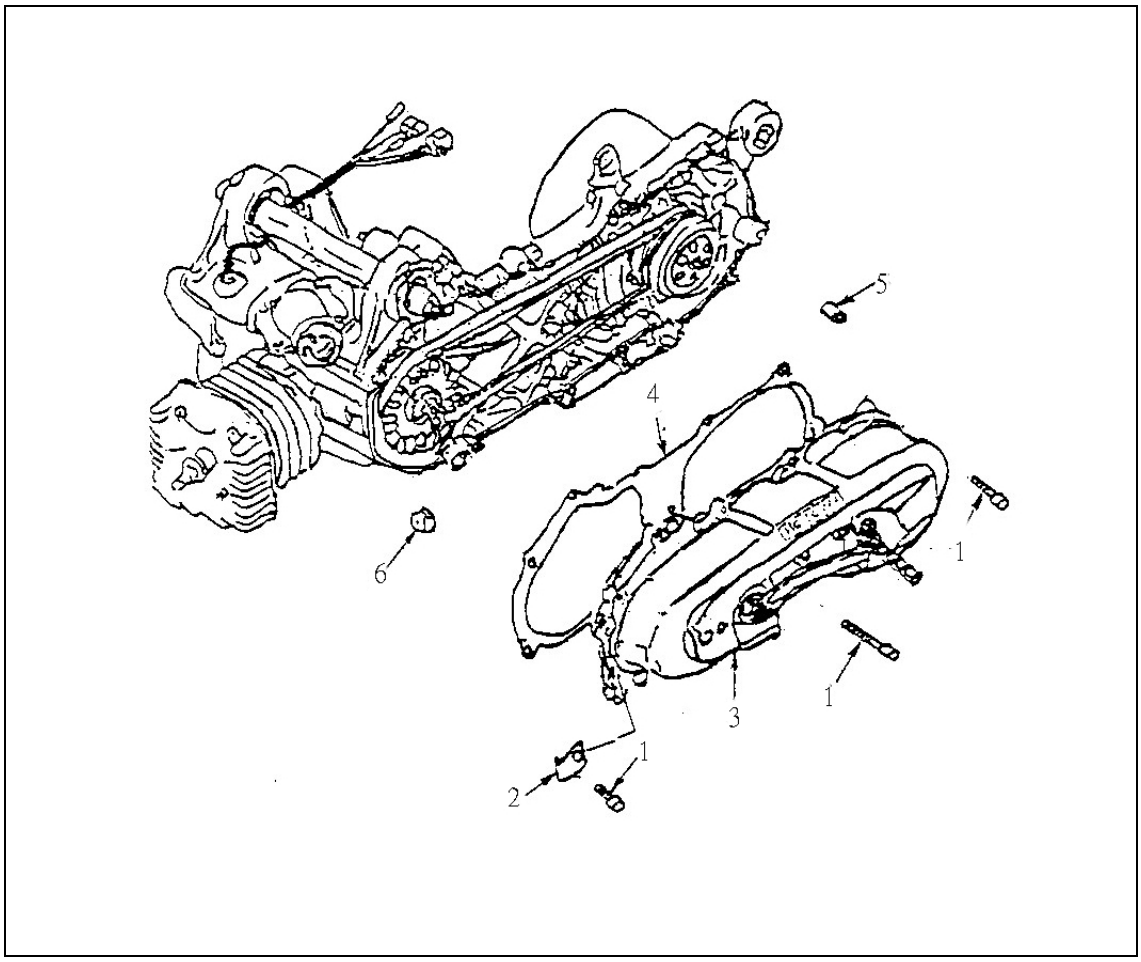
- Drive belt wear-out
- Drive face comp. damage
- Clutch lining wear-out
- Driven ass’y spring defect

Power insufficient

- Drive belt wear-out
- Driven ass’y spring defect
- Drive face dirty or oily
- Weight roller wear-out

Disassembly of Left Crank Case Cover

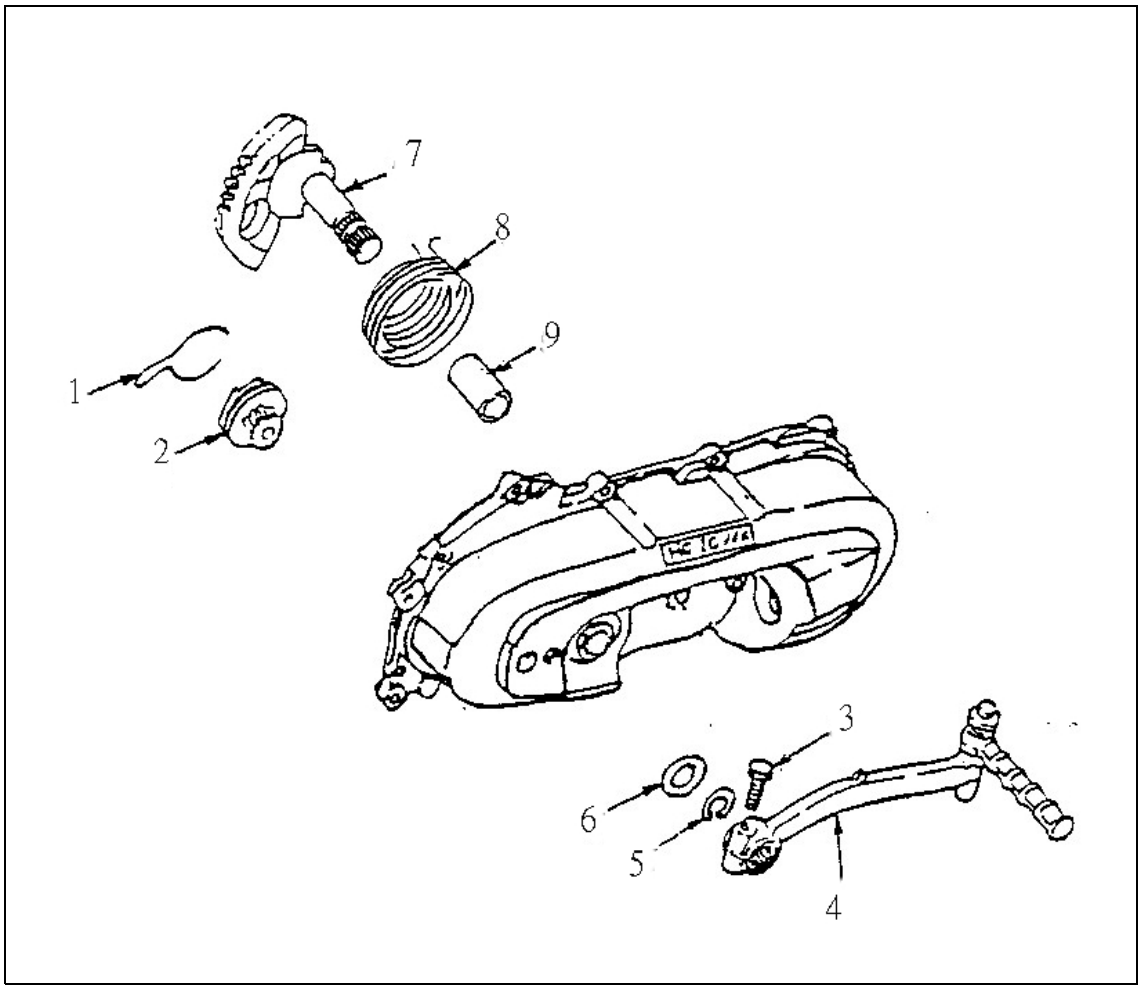
• Disassembly of air cleaner ass'y.



	Operation / Parts name	Q'ty	Remark
	Disassembly		
1	Hex socket bolt	12	
2	Carburetor tube bracket	1	
3	Left crank case cover	1	
4	Crankcase cover gasket	1	∗ ***WARNNING:***
5	Dowel pin	2	Check the air cleaner whether
6	Grommet	1	worsen or harm.
	Assembly 6→1		• Operation with sequence in reverse of disassembly.

Disassembly of Kick Starter

• Disassembly of left crank case cover.



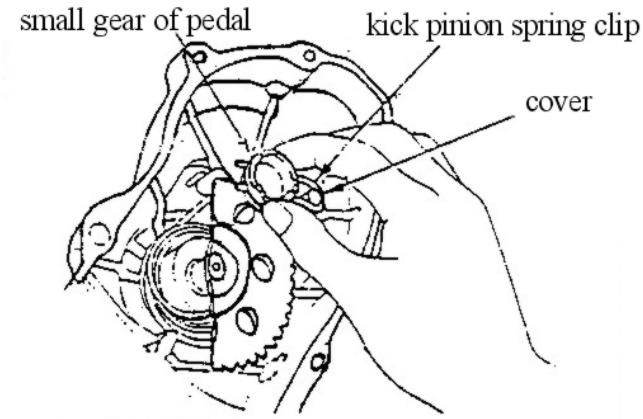
	Operation / Parts name	Q'ty	Remark
	Disassembly		
1	Kick pinion spring clip	1	
2	Kick pinion	1	∗ ***WARNNING:*** Rotating pedal kick crank and remove the assembly.
3	Hex washer face bolt	1	
4	Kick crank	1	
5	External ring clamp	1	
6	Plain washer	1	
7	Starting shaft ass'y	1	
8	Starting shaft reset spring	1	
9	Bushing	1	

Starter / Driving Disc / Clutch / Transmission Disc

	Operation / Parts name	Q'ty	Remark
	Assembly		
9	Washer	1	
8	Starting shaft reset spring	1	∗ ***WARNNING:*** Unable into main shaft fix position when inside and outside reset spring overlap, use flat-driver will inside、outside spring part, then press main shaft.
7	Starting shaft ass'y	1	
6	Plain washer	1	
5	External ring clamp	1	
4	Kick crank	1	
3	Hex washer face bolt	1	
2	Kick pinion	1	
1	Kick pinion spring clip	1	

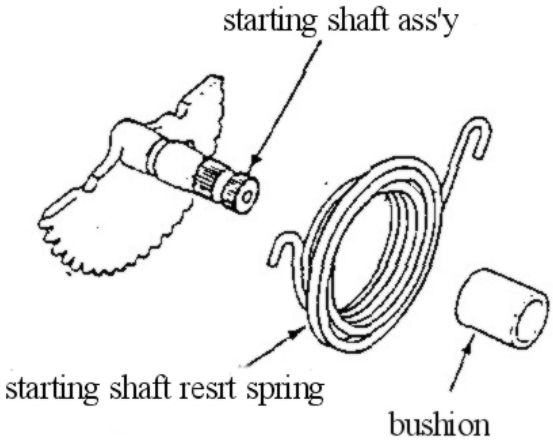
Installation of Kick Pinion / Kick Pinion Spring Clip

- Set kick starter shaft first.
- Turning starter, hang kick pinion spring clip on crank shaft case convex and assembly of kick pinion to the location of removing.
- Turning starter, let starting shaft and kick pinion conjoin.

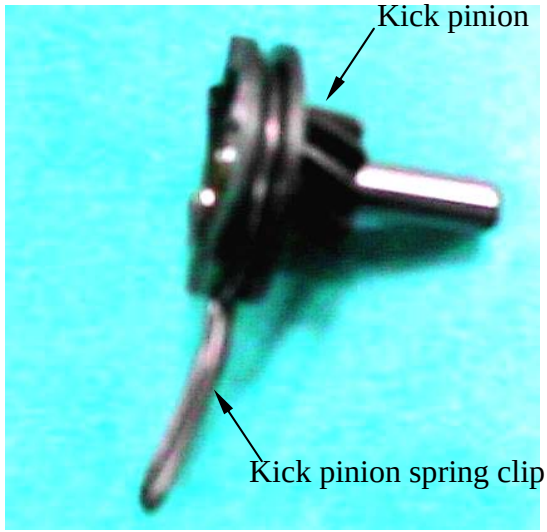


Check of Starter

- Check the wear & damaging of starting shaft or gear.
- Check the tightness & damage of starting shaft reset spring.
- Check the wear & damage of bush.

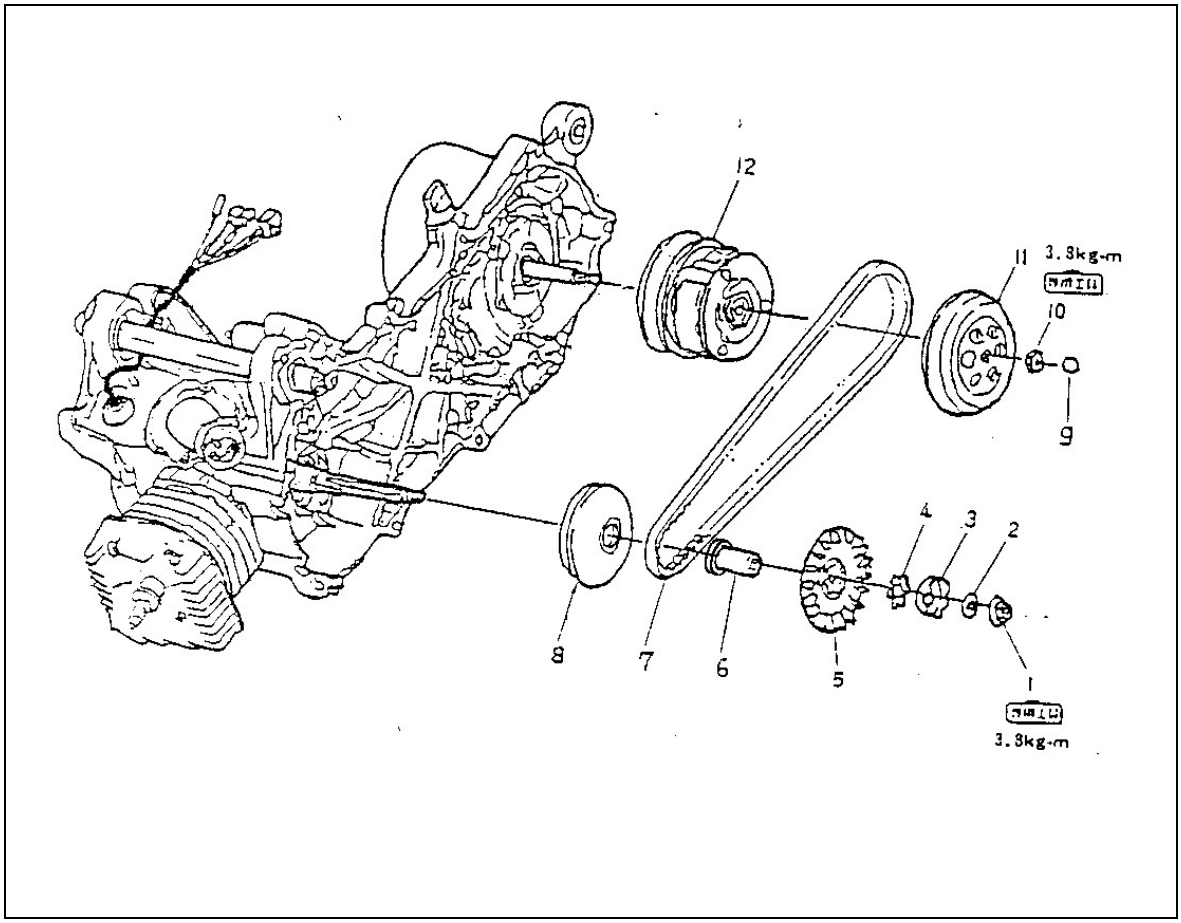


- Check the wear & damage of kick pinion.
- Check the wear & damage of kick pinion spring clip.



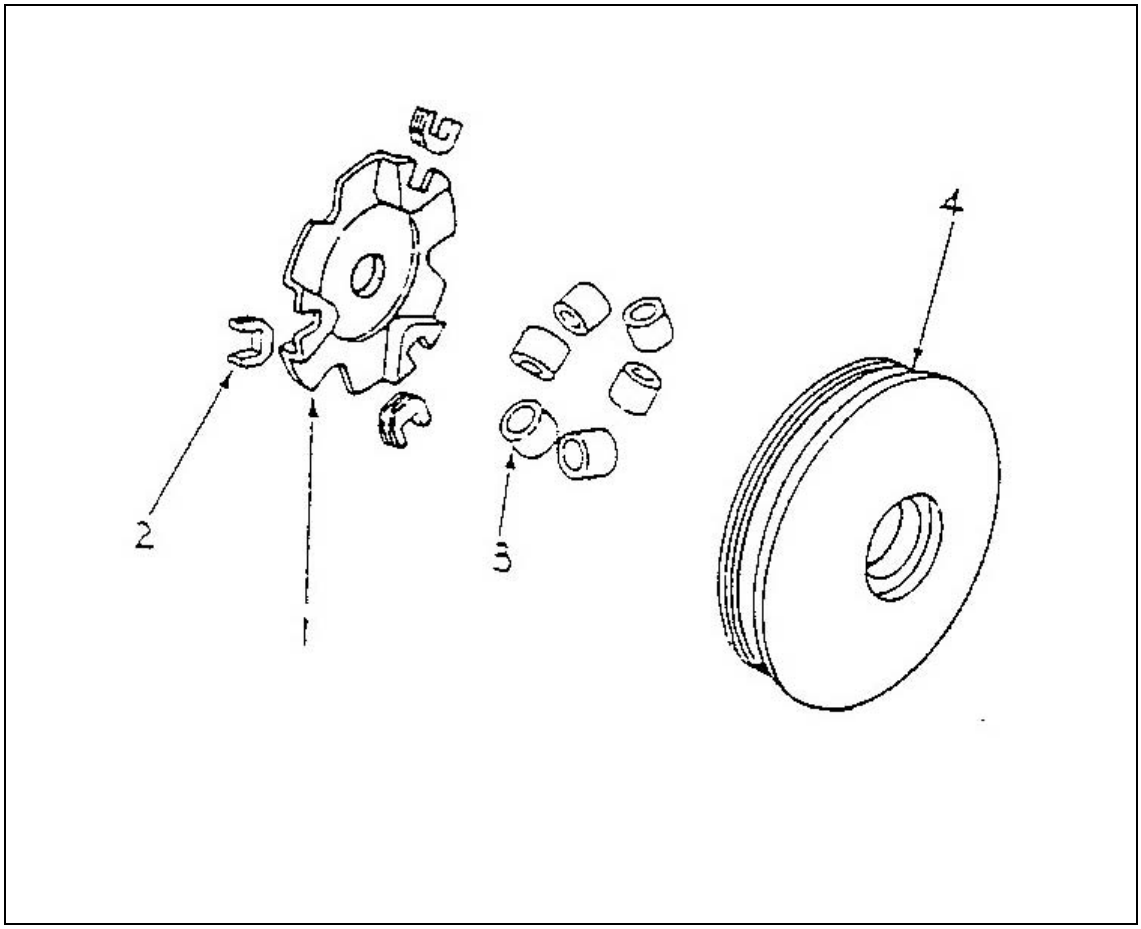
- Check the wear & damage of starting shaft , bearing and driving gear.

Disassembly of Left Crank Case (→7-2)



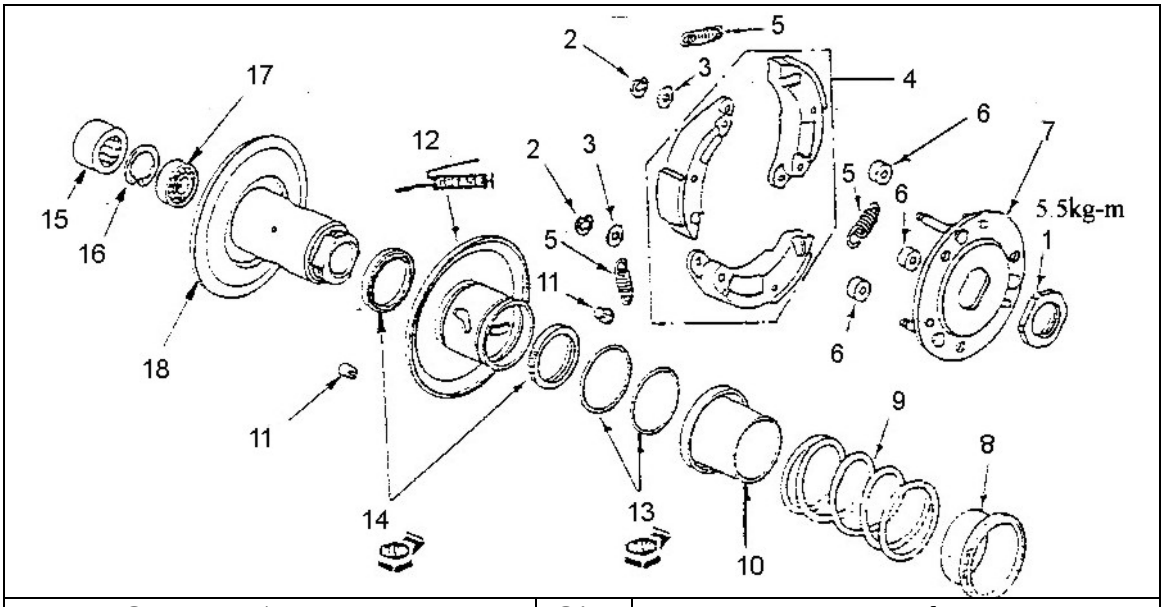
	Operation / Parts name	Q'ty	Remark
	Disassembly		
1	Hex washer face bolt	1	∗ ***WARNNING:*** Don't hurt transmission belt.
2	Cone spring washer	1	
3	One-way clutch	1	
4	Clamp washer	1	
5	Primary fixed sheave	1	
6	Bushing	1	
7	V-Belt	1	
8	Primary sliding slot wheel	1	Separation / assembling (→ 7-7)
9	Oil ring	1	
10	Hex nut	1	
11	Covering of clutch	1	Separation / assembling (→ 7-8)
12	Drive face ass'y	1	
	Assembly 12→1		• Operation with sequence in reverse of disassembly.

Disassembly of Sliding Driving Disc



	Operation / Parts name	Q'ty	Remark
	Disassembly		
1	Cam plate	1	
2	Cam plate sliding	3	
3	Weight roller	6	
4	Primary sliding slot wheel	1	
	Assembly 4→1		• Operation with sequence in reverse of separating.

Disassembly of Clutch / Transmission Belt Disc



	Operation / Parts name	Q'ty	Remark
	Disassembly		
	Clutch		
1	Nut	1	
2	C retaining ring	3	
3	Washer	3	
4	Clutch weight set	3	
5	Clutch weight spring	3	
6	Rubber buffer	3	f ***WARNNING:*** Must replacing when the buffer have damage, hardening and distortion.
7	Driving plate of clutch	1	
	Drive face ass'y		
8	Axle ring of spring		
9	Compression spring		
10	Secondary spring seat		
11	Guide pin		
12	Secondary sliding slot wheel		
13	Oil ring		
14	Oil seal		
15	Needle bearing		
16	Internal circle clip		
17	Radial ball bearing		
18	Secondary fix slot wheel		
	Assembly		• Operation with sequence in reverse of separating.
	18→1		

Final Transmission Mechanism

Attention of Operation

- This chapter explain that final reduction mechanism maintance. Can be operated in the vehicle.
- For no hurting case cap, changing the bearing of left crank shaft case after removing the rear break of engine.
- Use professional tool to change driving shaft and pull out the shaft after fixing inner ring of bearing.

Diagnosis of Trouble

Engine starts but vehicle does not move.

- Transmission gears broken.
- Transmission gears burns out.

Operate of noise

- Abrasion、wore and teeth hurted of gear
- Bearing wore and loosened.

Gear oil leaking

- Too much gear oil filled.
- Oil seal wear-out or damage.

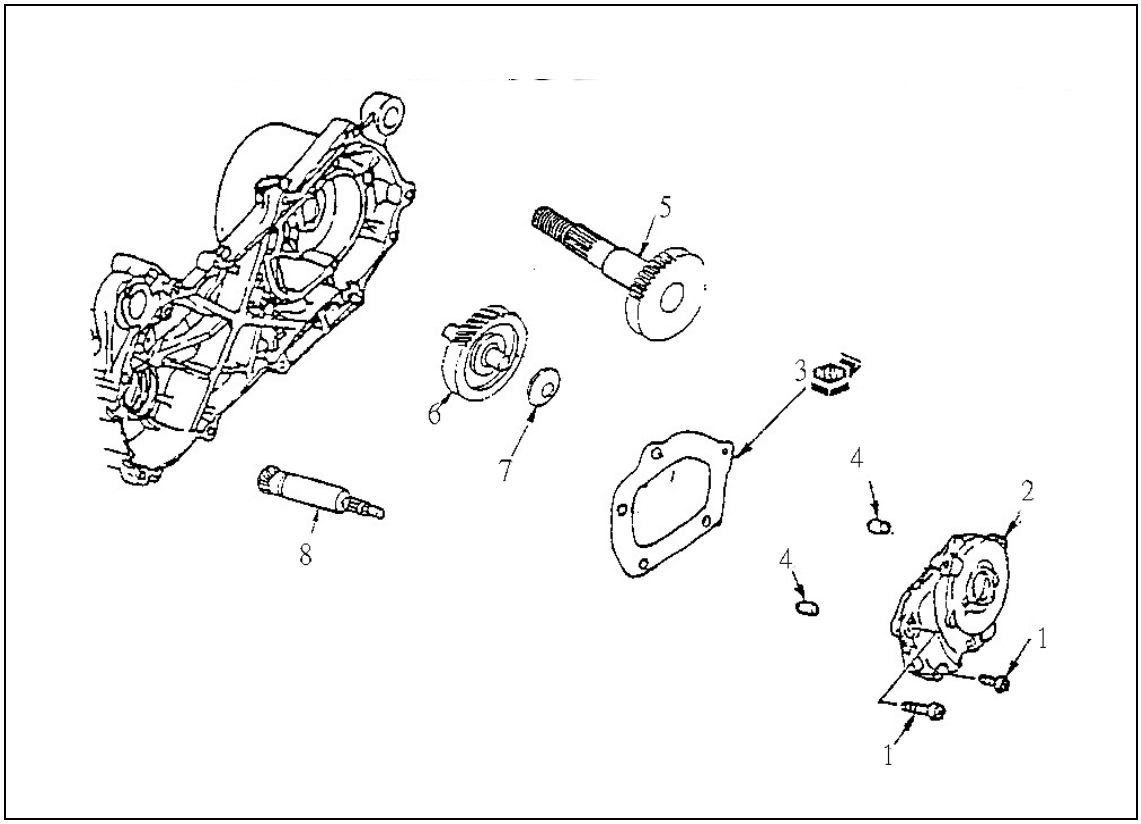
Final Transmission Mechanism

Disassembly of primary drive gear / final reduction mechanism

- Disassembly of rear tire(→11-2).
- Disassembly of clutch / drive face(→7-6).

∗ ***WARNNING:***

First drain the oil of transmission.

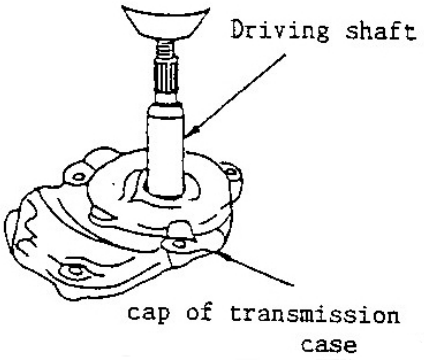


	Operation / Parts name	Q'ty	Remark
	Disassembly		
1	Bolt	5	
2	Mission cover	1	
3	Washer	1	
4	Dowel pin	2	
5	Drive axle	1	
6	Main axle comp.	1	• Check the wear & damage of shaft and gear. Change new one. (→8-3)
7	Plain washer	1	
8	Primary drive gear	1	
	Assembly 8→1		• Operation with sequence in reverse of disassembly.

Final Transmission Mechanism

Change the Driving Shaft

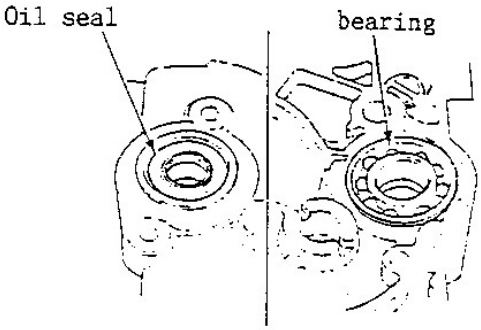
- Remove the driving shaft from mission cover.



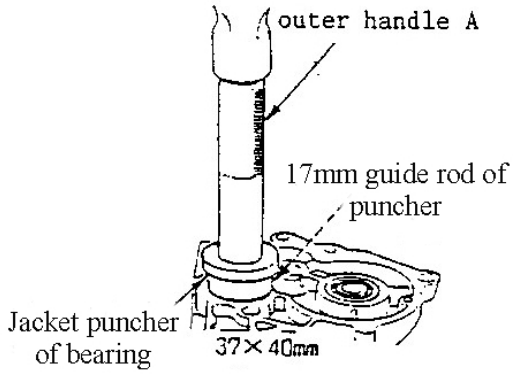
＊***WARNNING:***

Don’t damage joint face of mission cover.

- Remove the oil seal of primary drive gear.
- Remove the bearing.

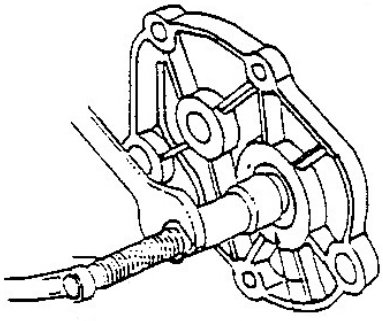


- Install the new bearing in the mission cover.



＊***WARNNING:***

Install the bearing with facing outside.



Crank Case / Crank Shaft

Attention of Operation

- This chapter explain the necessary procedure of disassembling crank case due to repair & maintain the crank shaft.
- Before disassembling of crank case , must operation with sequence of each chapter to disassembly.
  - Disassembly of oil pump (Chap. 3)
  - Disassembly of carburetor (Chap. 4)
  - Disassembly of intake valve (Chap. 4)
  - Dis-mounting of engine (Chap. 5)
  - Disassembly of cylinder head and cylinder (Chap. 6)
  - Disassembly of ACG (Chap. 12)
  - Disassembly drive face ass'y (Chap. 7)

- Must disassembly of final reduction mechanism when change the left crank case.

- Must use special tool into the inner ring of crank shaft bearing , and pull in crank shaft to assembly when assembly crank case & crank shaft , put new bearing into crank case, and put into new oil seal after assembling crank case.

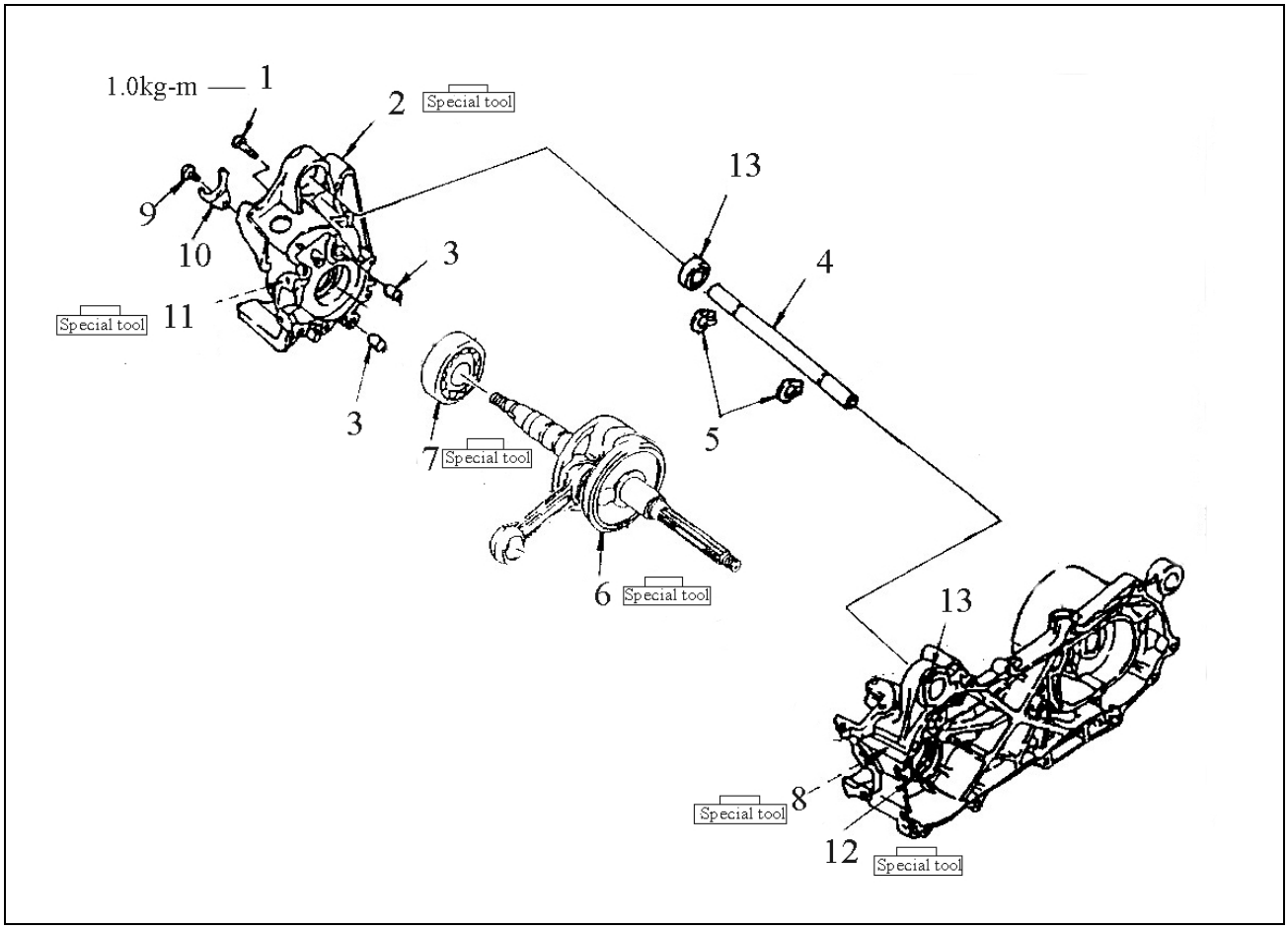
Diagnosis of Troubles

Noise of Engine

- Damage of crankshaft bearing.
- Damage of needle bearing of crankshaft pin.

Crank Case / Crank Shaft

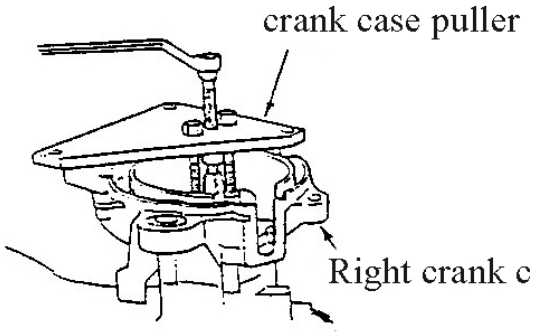
Assembly / Disassembly of Crank Case



	Operation / Parts name	Q'ty	Remark
	Disassembly		
1	Hex socket bolt	6	
2	Right crank shaft case	1	
3	Dowel pin	2	
4	Fix shaft of crank shaft case	1	
5	External circle clip	2	
6	Crank shaft	1	
7	Radial ball bearing (Right)	2	
8	Radial ball bearing (Left)	1	
9	Hex socket bolt	1	
10	Oil seal bracket	1	
11	Right oil seal	1	
12	Left oil seal	1	
13	Radial ball bearing	2	
	Assembly		
	13→1		

Crank Case / Crank Shaft

Disassembly of Crank Case

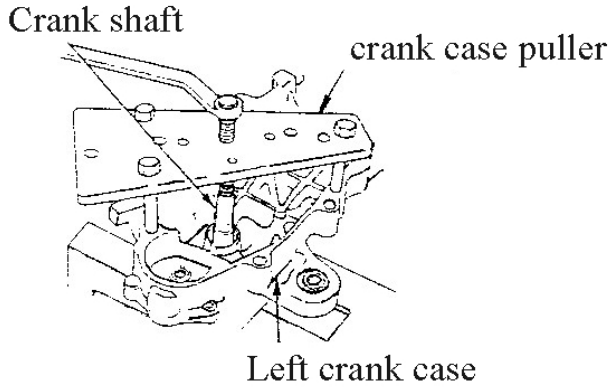


・Install the puller on right crank case, separate the R. crank case and L. crank case.

: Crank case puller **(TLJT-03)**

・Install the puller on left crank case, remove the crank shaft from the crank case.

: Crank case puller (TLJT-03)

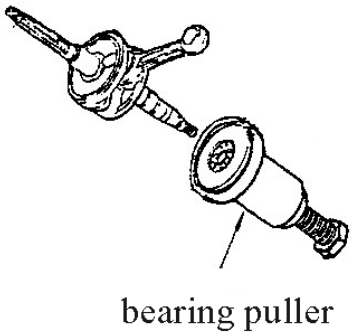


＊***WARNNING:***

Don't knock the crank shaft when disassembling.

・Use the bearing puller to remove the crankshaft bearing from crank shaft, then remove the R/L crank case.

: Bearing puller (TLJT-00)



＊***WARNNING:***

Must remove the oil seal when separate the crank case, and never use the old oil seal.

Assembly of Crank Case

・Clean the crank case with gasoline, and check the each part whether damaged or crack.

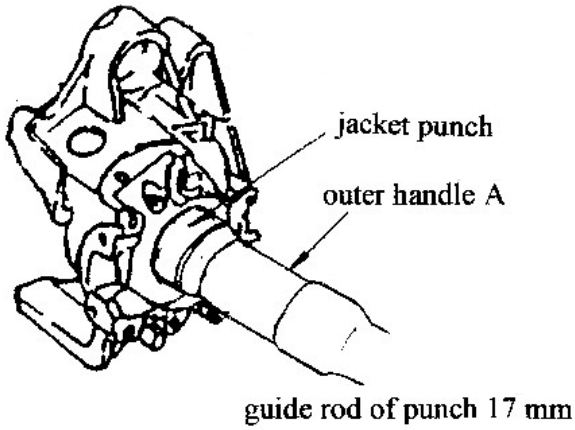
＊***WARNNING:***

**Smear of oil on sliding surface of each shaft in crank case after checking.

**Cleaning the washer dust of joint face, and amend the part damage with oil stone.

Crank Case / Crank Shaft

• Put new crank shaft into right crank case.

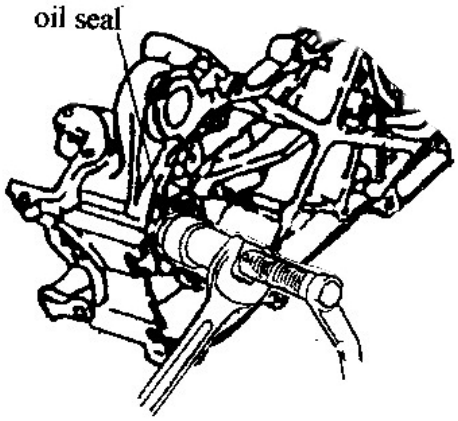


• Put crank shaft assembly into left crank case.

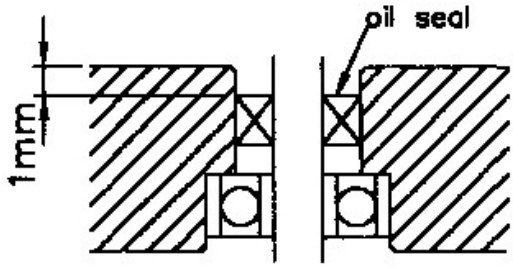
∗ ***WARNNING:***

** Smear the 2-stroke oil to main bearing and big end of connecting rod.

** Note the position of connecting rod.



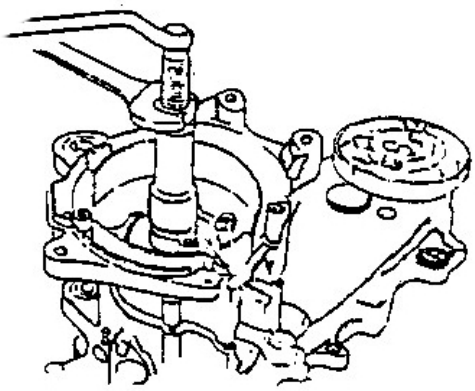
• Put left oil seal into L. crank shaft case, surface depth under 1.0 mm.



Crank Case / Crank Shaft

Assembly of Crank Case

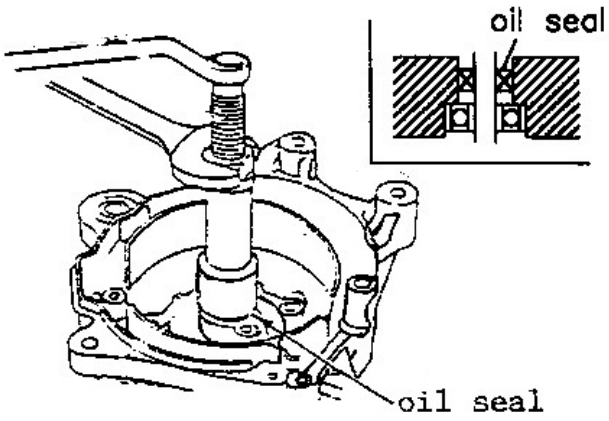
- Install the dowel pins in the joint face of left crank case.
- Install the right crank case.



Special tool: Bearing puller (TLJT-00)

- Install the new R. oil seal to crank case.

Special tool : Bearing puller (TLJT-00)



Front Wheel / Front Suspension / Front Brake

Attention of Operation

- Remove the body cover and support the frame body bottom before remove the front wheel, don't invert the front wheel when front wheel depart ground.

Diagnosis of Trouble

Heavy steering movement

- Over tied of the steering ball race.
- Steel ball inside ball race broken.
- Air too less inside of front tire.

Steering handle not straight

- L/R suspension not balanced.
- Front fork banded.
- Front tire axle banded, tire wear-out.

Brake efficiency abnormal

- Brake lining wear-out.
- Brake pads adjust not correct.
- Brake disc attrition.
- Tire wear-out.

Front wheel shaking

- Front rim defected.
- Loose of front rim bearings.
- Tire defect.
- Bad adjustment of the front axle.

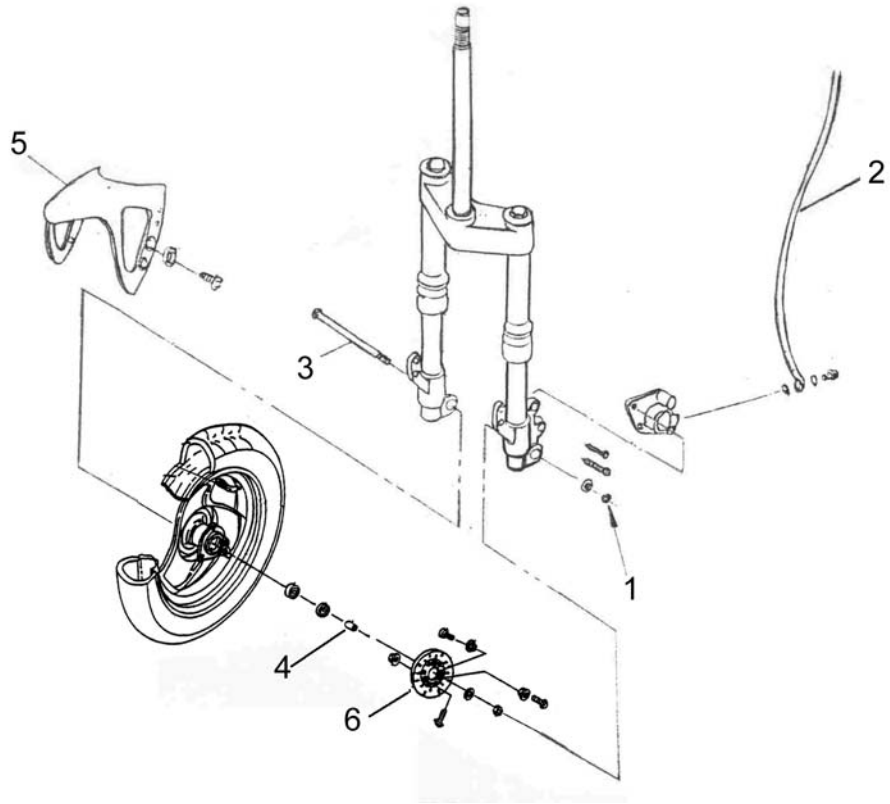
Poor Brake

- Bad adjustment of brake.
- Wear the brake pad.

Disassembly of Front Wheel

• Disassembly of front fender.

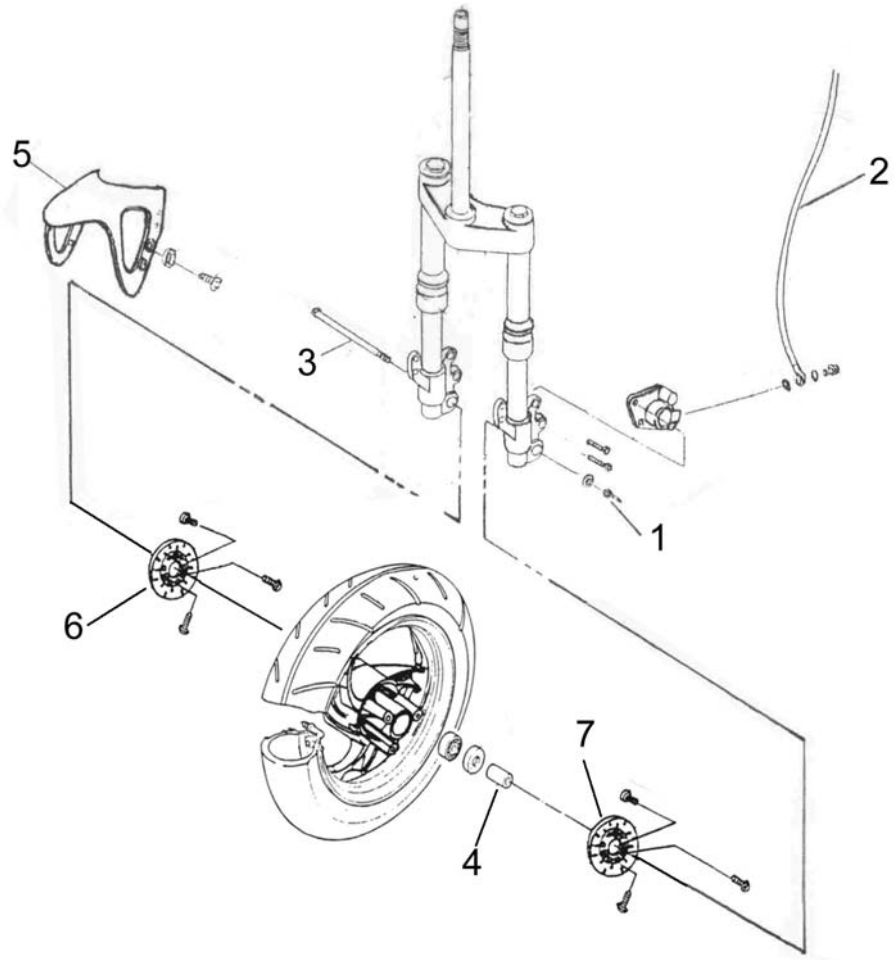
Front Wheel – **Single Disc / Iron Rim**



	Operation / Parts name	Q'ty	Remarks
	Disassembly of Front Wheel		
1	Nut nylon	1	
2	Brake hose	1	
3	Hex washer face bolt	1	
4	Front collar	1	
5	Front fender	1	
6	Front brake disc	1	
	Assembly 6→1		• Assembling with sequence in reverse of disassembly. ∗ ***WARNNING:*** Assembly of front fork , shall be aimed at convex of front fork

Front Wheel / Front Suspension / Front Brake

Front Wheel – **Double Disc / Aluminum Rim**

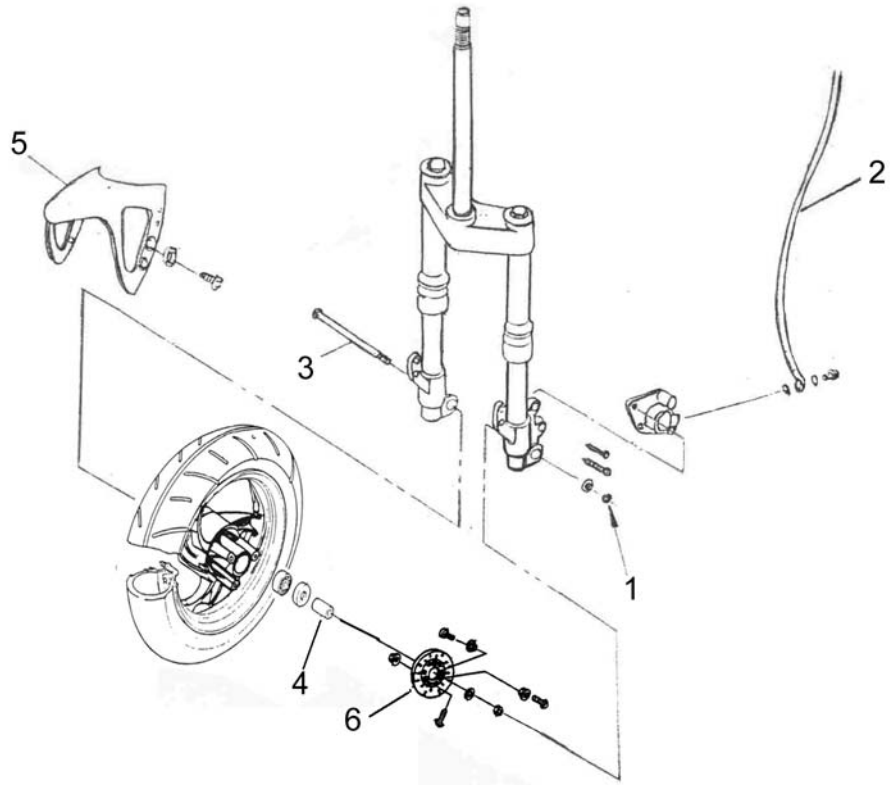


	Operation / Parts name	Q'ty	Remarks
	Disassembly of Front Wheel		
1	Nut nylon	1	
2	Brake hose	1	
3	Hex washer face bolt	1	
4	Front collar	1	
5	Front fender	1	
6	Front brake disc (right)	1	
7	Front brake disc (left)	1	
	Assembly 7→1		• Assembling with sequence in reverse of disassembly. ∗ ***ARNNING:*** Assembly of front fork shall be aimed at convex of front fork and brake arm.

Disassembly of Front Wheel

• Disassembly of front fender.

Front Wheel – **Single Disc / Aluminum Rim**

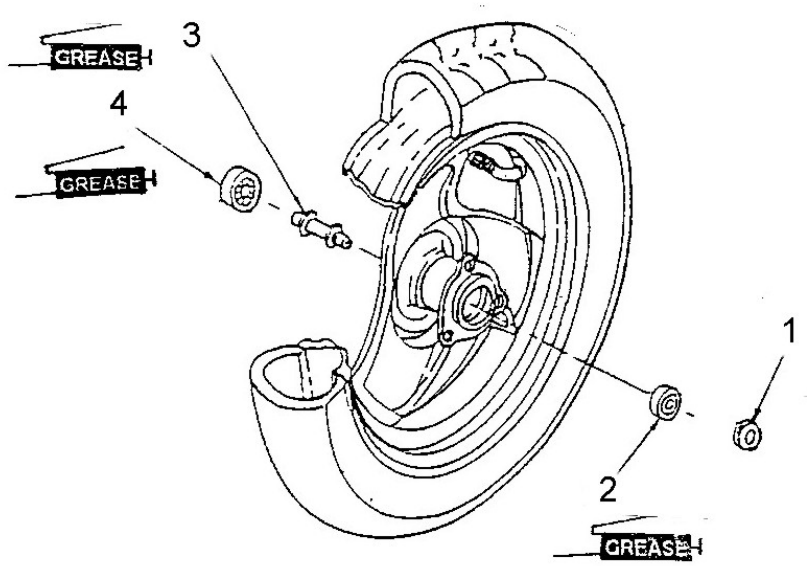


	Operation / Parts name	Q'ty	Remarks
	Disassembly of Front Wheel		
1	Nut nylon	1	
2	Brake hose	1	
3	Hex washer face bolt	1	
4	Front collar	1	
5	Front fender	1	
6	Front brake disc	1	
	Assembly 6→1		• Assembling with sequence in reverse of disassembly. ∗ ***WARNNING:*** Assembly of front fork , shall be aimed at convex of front fork

Assembly / Disassembly of Front Wheel

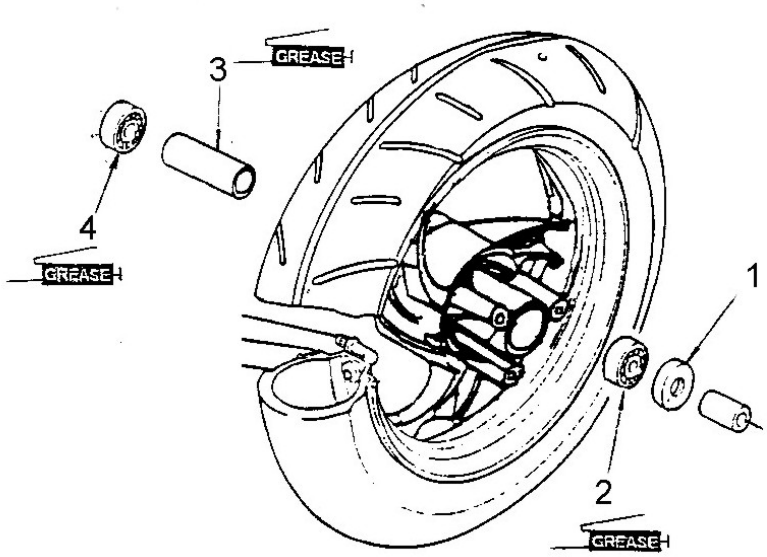
• Disassembly of front wheel.

Front Wheel – **IRON RIM**



	Operation / Parts name	Q'ty	Remarks
	Disassembly		
1	Oil seal	1	
2	Radial ball bearing(left)	1	
3	Front wheel spacer tube	1	
4	Radial ball bearing(right)	1	
	Assembly 4→1		• Assembling with sequence in reverse of disassembly. ∗ ***WARNNING:*** Must change the R/L bearing set.

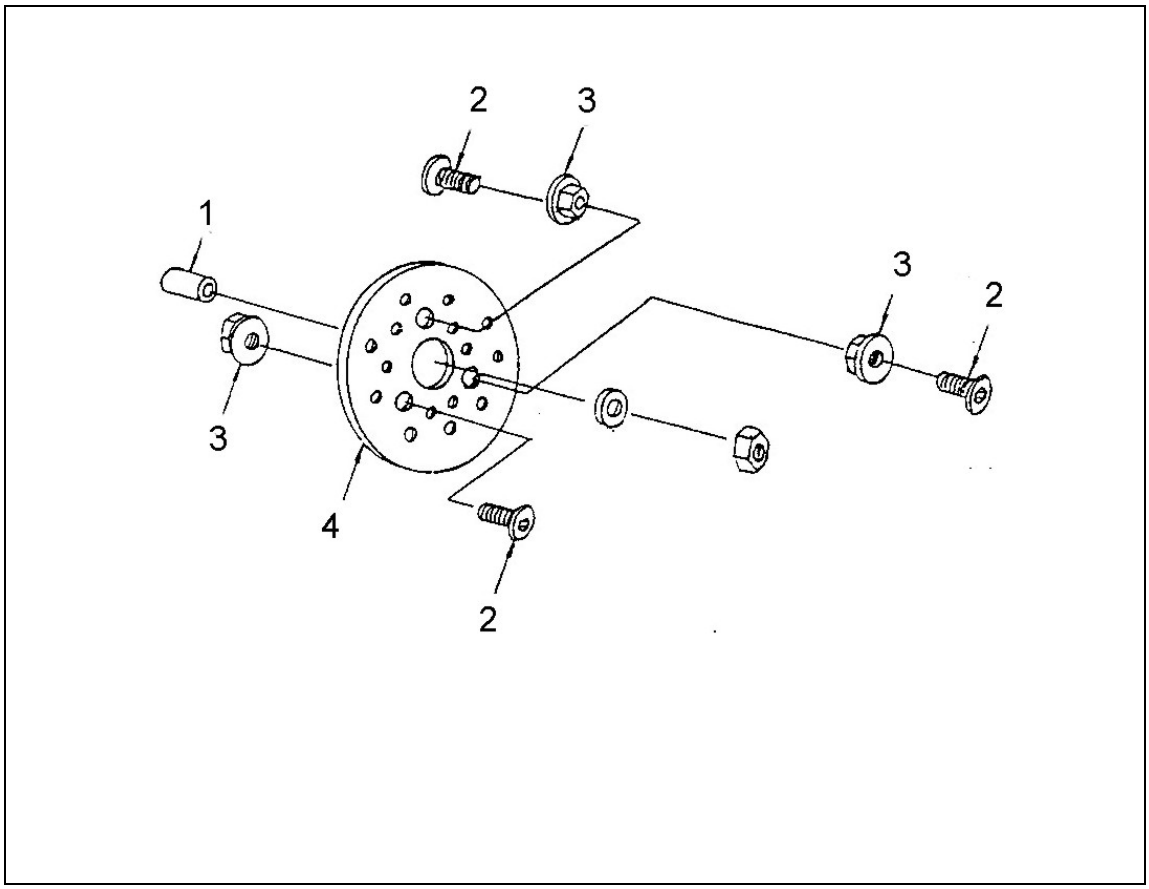
Front Wheel – **Aluminum Rim**



	Operation / Parts name	Q'ty	Remarks
	Disassembly		
1	Oil seal	1	
2	Radial ball bearing(left)	1	
3	Front wheel spacer tube	1	
4	Radial ball bearing(right)	1	
	Assembly 4→1		• Assembling with sequence in reverse of disassembly. ∗ ***WARNNING:*** Must change the R/L bearing set.

Assembly / Disassembly of Front Brake

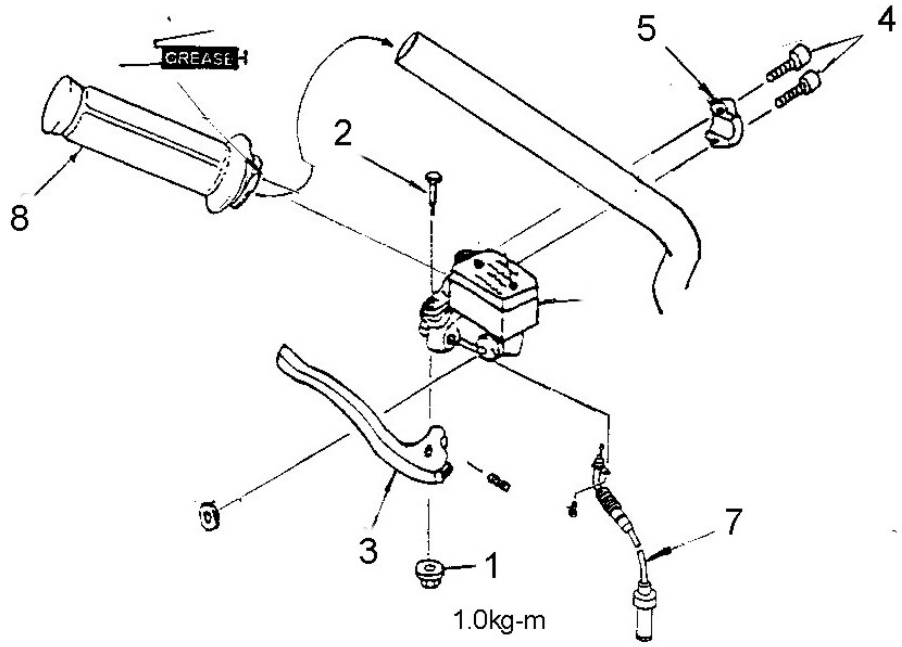
• Disassembly of front disc.



	Operation / Parts name	Q'ty	Remarks
	Disassembly		
1	Front collar	1	
2	Brake disc hex socket bolt	3	
3	Hex flange nut with serration	3	
4	Front brake disc	1	
	Assembly 4→1		• Assembling with sequence in reverse of disassembly.

Disassembly of Throttle Handle

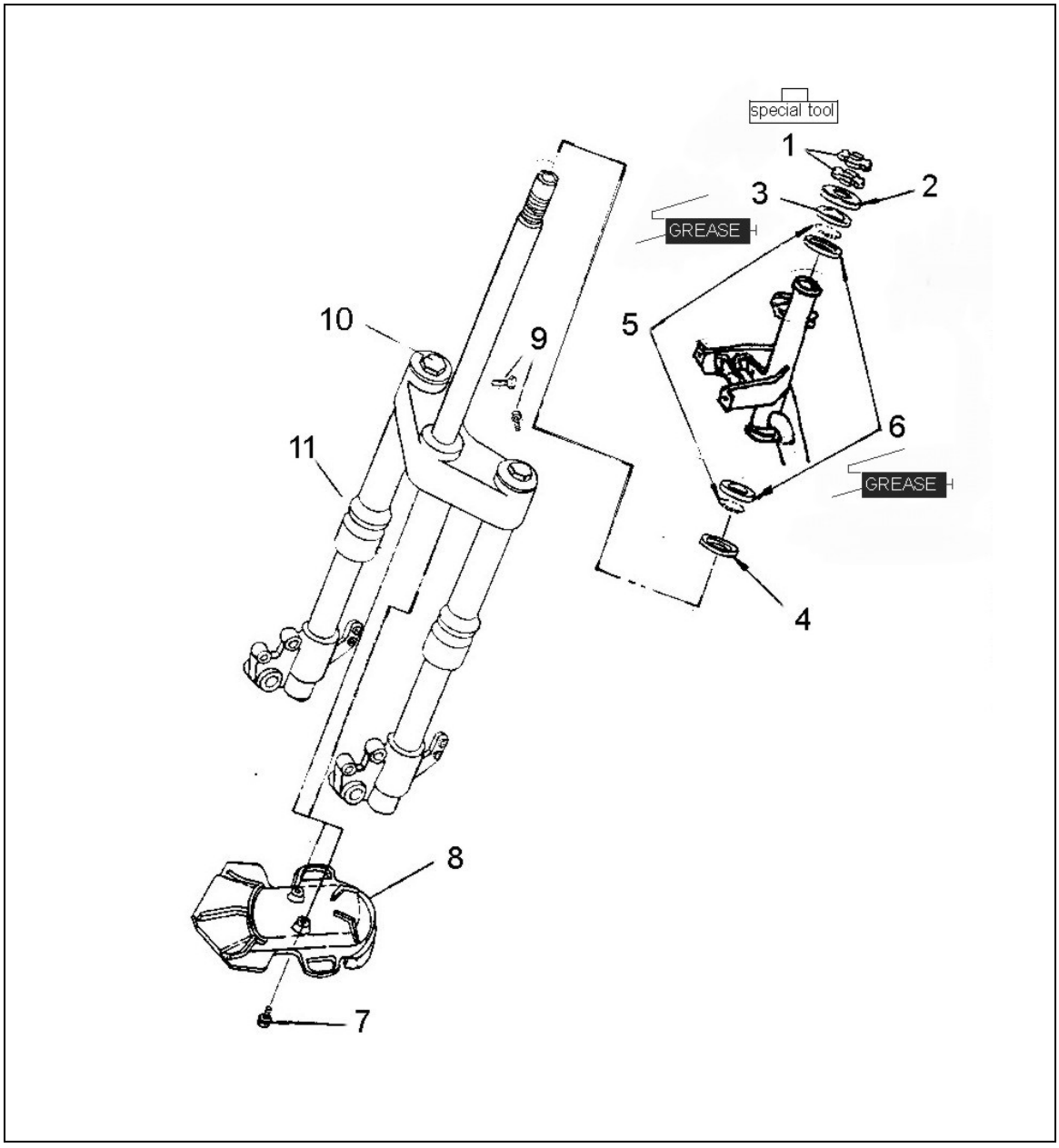
• Disassembly of speedometer up/down lid.



	Operation / Parts name	Q'ty	Remarks
	Disassembly		
		1	
1	Hex flange nut with serration	1	
2	Right lever set bolt	1	
3	Lever of front brake	1	
	Lever of front brake		
4	Hex socket bolt	1	
5	Master cylinder bracket	1	
6	Master cylinder sub	1	
7	Throttle cable	1	
8	Handle	1	
	Assembly		• Assembling with sequence in reverse of disassembly.
	8→1		
7	Throttle cable	1	∗***WARNNING:*** Adjusting gap of throttle.
6	Master cylinder sub	1	∗ ***WARNNING:*** Install, make the convex of master cylinder bracket and hole of handle aimed.

Disassembly of Steering Stem

- Disassembly of front wheel.
- Disassembly of steering handle.

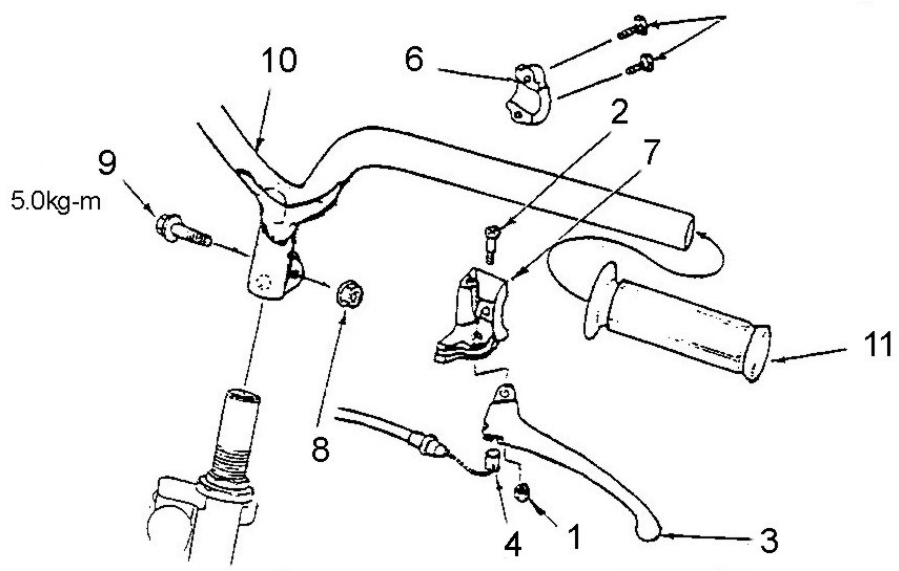


Front Wheel / Front Suspension / Front Brake

	Operation / Parts name	Q'ty	Remarks
	Disassembly		
	Steering Main rod		
1	Spaner nut	2	
2	Steering stem dust cover	1	∗ ***WARNNING:*** No damage main
3	Lathe cone on steering top #2	1	rod & front brake.
4	Race ball #5	1	
5	Steel ball	2	
6	Lathe on steering inner #3	2	
7	Bolt / washer	2/2	
8	Front inner fender	1	
9	Hex bolt	2	
10	Hex bolt	2	∗ ***WARNNING:*** Remove L/R tube by
11	Front fork	1	loose these two hex bolts.
	Assembly		
	10→1		
5	Steel ball	2	∗ ***WARNNING:*** Note the direction of
2	Steering stem dust cover	1	installing bearing .
1	Spaner nut	2	Assembly (→10-11)

Disassembly of Steering Handle

• Disassembly of throttle handle. (→10-7)



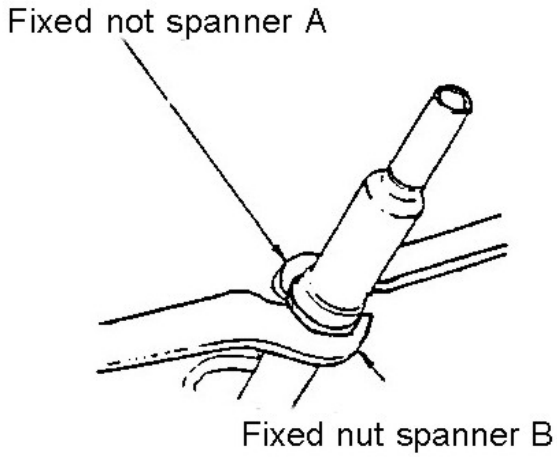
	Operation / Parts name	Q'ty	Remarks
	Disassembly		
	Rear brake lever		
1	Nut	1	
2	Left lever set bolt	1	
3	Rear brake lever	1	
4	Rear brake cable	1	
	Bracket of rear brake lever		
5	Hex socket bolt	1	
6	Fixed belt of steering handle	1	
7	Bracket of rear brake lever	1	
	Steering Handle		
8	Hex flange nut with serration	1	
9	Hex washer face bolt	1	
10	Steering handle	1	
11	Handle grip	1	
	Assembly		• Assembling with sequence in reverse of disassembly.
	11→1		
10	Steering handle	1	∗ ***WARNNING:*** Install steering handle with handle convex at ditch of main rod type part.
7	Bracket of rear brake lever	1	
4	Rear brake cable	1	

Turning Front Fork to Right / Left

- Turn the front fork several times, make the bearing smoothly.
- Confirm the rotation smooth and gap of steering main rod.

general tool **:** fixed nut spanner B

- For no back-turning together with up-cone seal ring, locking fixed screw to fix it.
  Locking Torque :7.0 kg-m



general tool **:** Fixed nut spanner B

general tool **:** Fixed nut spanner A

REAR WHEEL / SUSPENSION / BRAKE

Diagnosis of Troubles

Rear wheel shaking

- The shape of rear rim damaged.
- Tire defected.

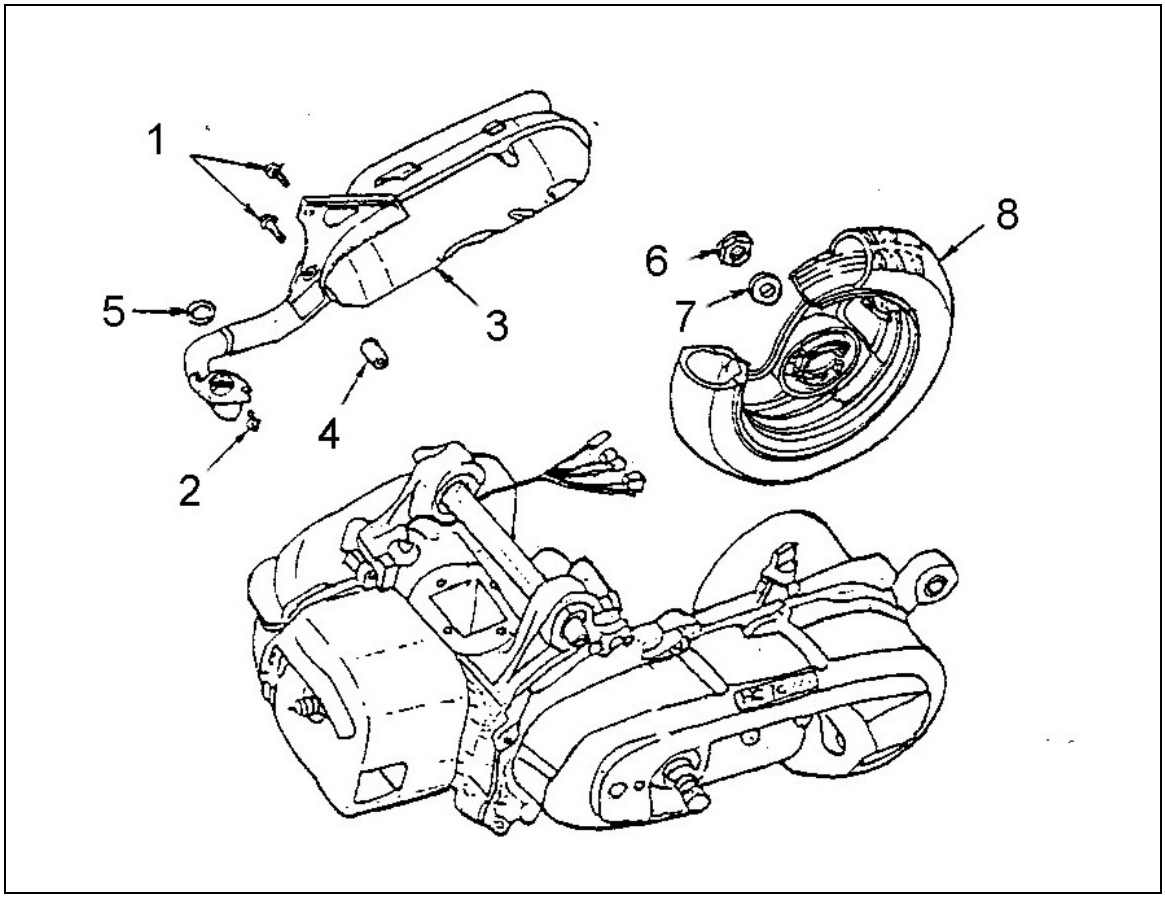
Rear suspension too soft

- Spring too soft.

Brake efficiency abnormal

- Brake pad adjust not correct.
- Brake pad attrition.
- Brake pad cam part wear.
- Brake cam wear.
- The tooth groove setting poor of break arm.

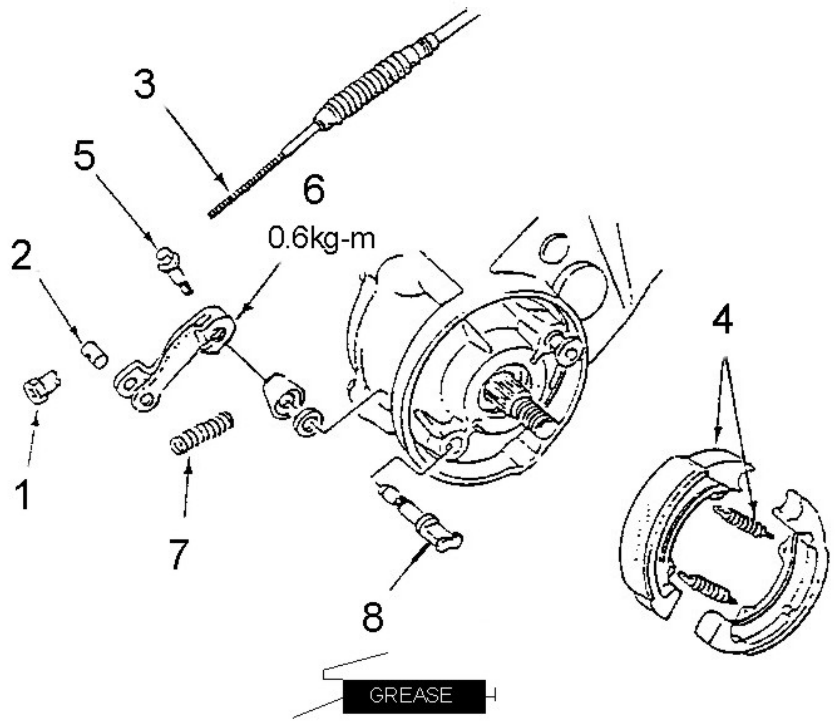
Disassembly of Rear Wheel



	Operation / Parts name	Q'ty	Remarks
	Disassembly		
	Muffler		
1	Hex washer face bolt	2	
2	Hex head phillips bolt	2	
3	Assembly of exhaust pipe	1	
4	Collar	1	
5	Gasket of exhaust pipe	1	
	Rear wheel		
6	Nut	1	
7	Plain washer	1	
8	Rear wheel	1	
	Assembly		• Assembling with sequence in reverse of disassembly.
	8→1		

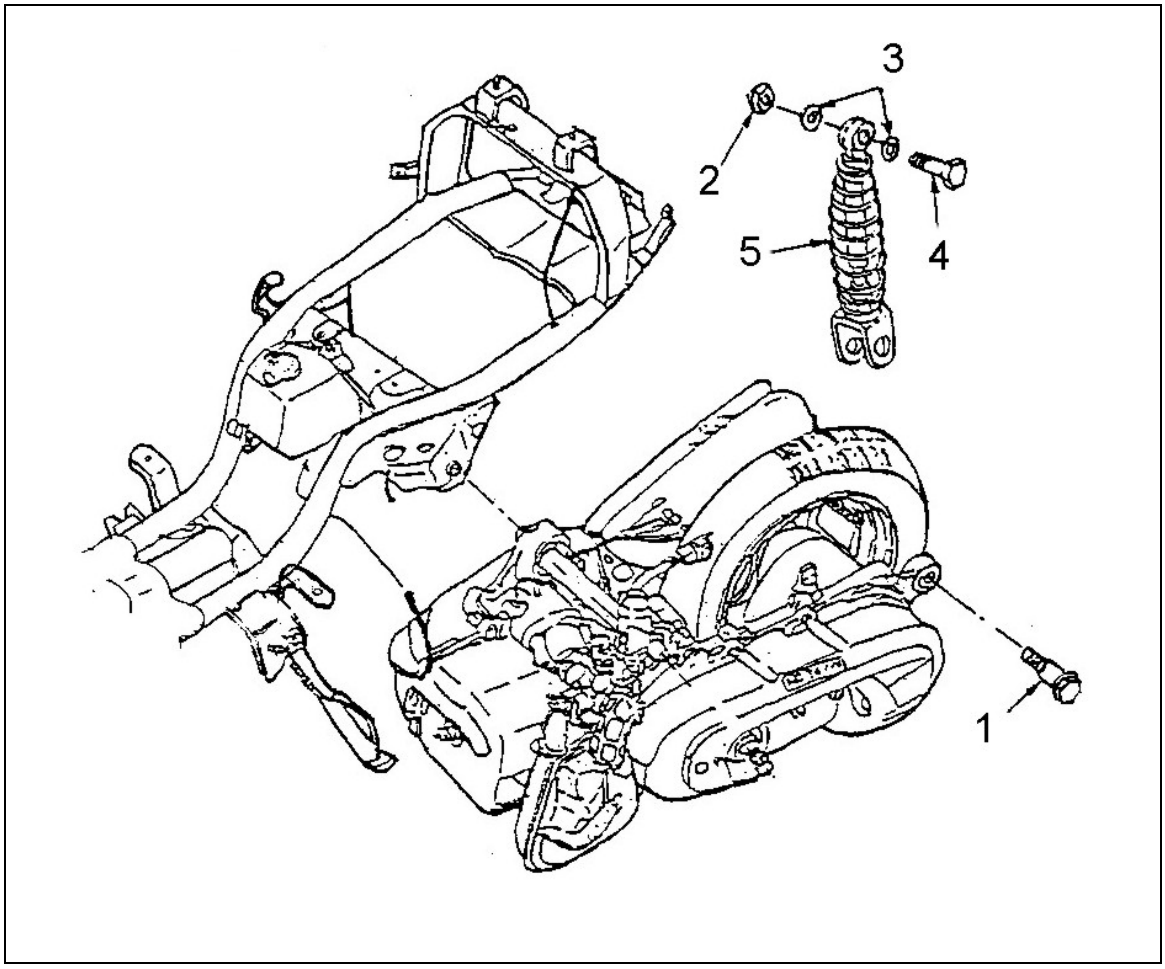
Disassembly / Assembly of Rear Brake

• Disassembly of Rear Wheel.



	Operation / Parts name	Q'ty	Remarks
	Disassembly		
1	Adjusted nut of rear brake	1	
2	Rear brake fixture	1	
3	Rear brake cable	1	
4	shoe/shoe strain spring of rear brake	2/2	
5	Hex washer face bolt	1	
6	Rear brake arm	1	
7	Reset spring	1	
8	Brake cam shaft	1	
	Assembly 8→1		• Assembly with sequence in reverse of disassembly.

Disassembly of Rear Cushion



	Operation / Parts name	Q'ty	Remarks
	Disassembly		
1	Hex washer face bolt	1	
2	Nut (nylon insert)	2	
3	Plain washer	2	
4	Hex bolt	1	
5	Rear cushion	1	
	Assembly 5→1		• Assembly with sequence in reverse of disassembly.

ELECTRICAL DEVICE

Attention of Operation

- Remove battery from truck for charging.
- No charging with fast speed if it's not urgent necessary.
- Must check voltage with Watt-hour meter.
- Must replace the battery with tranditional battery.
- Due to it's CDI ignition device, so, no adjusting ignition time. Check CDI set & ACG if ignition time is poor. And replacing it if it's poor, confirm ignition time with original service meter.
- Disassembly start motor without disassembling the engine.

Diagnosis of Trouble

No power
- Battery discharging.
- Fallening connection wire of battery.
- Fuse broke.
- Poor main switch.

Low voltage
- Poor charging of battery.
- Poor contact.
- Poor charging system.
- Bad rectifier.

Current off and on
- Poor contact of battery wires.
- Poor contact of discharging system.
- Poor contact or short circuit of ignition system.

Light weak
- Battery discharging.
- Resistance of wiring, switch too big.

Poor changing system
- Fuse broke.
- Poor contact, broke and short circuit of connection head or socket head.
- Poor rectifier.
- Poor ACG.

Spark plug no works
- Poor contact spark plug.
- Poor contact, broke and short circuit of main wire.
  - Between ACG & C.D.I.
- Between CDI & ignition coil.
  - Between CDI & main switch.
- Bad ignition coil.
- Poor CDI set.
- Poor ACG.

High/low beams can't be changed
- Bad bulb.
- Poor lighting switch.

ELECTRICAL DEVICE

Start motor no working

- Fuse broke.
- Battery charging insufficiently.
- Bad main switch.
- Poor start switch.
- Poor front / rear brake switch.
- Poor start breaker.
- Poor contact or broke of winding.
- Poor start motor.

Powerless start motor

- Battery charging insufficiently.
- Bad contact of winding.
- Strange thing blocked in motor or gear.

Start motor return running without engine return running

- Bad small gear of start motor.
- Counter rotation of start motor.
- Battery power insufficient.

Turn on main switch, but no lighting

- Bad bulb.
- Bad switch.
- Guide wire broke.
- Fuse broke.
- Battery discharging.
- Bad wiring.

Pointer of fuel gage unstable

- Loose socket head of guide wires.
- Poor fuel gage.
- Bad gage.

RPM unsmooth

- Ignition — primary circuitry
  - Bad ignition coil.
  - Wire or poor contact.
  - Poor contact main switch.
- Ignition — secondary circuitry
  - Bad ignition coil.
  - Bad spark plug.
  - Bad high voltage wires.
  - Power leakage of spark plug.
- Ignition time
  - Bad ACG.
  - Poor installation of statue inductor.
  - Poor CDI.

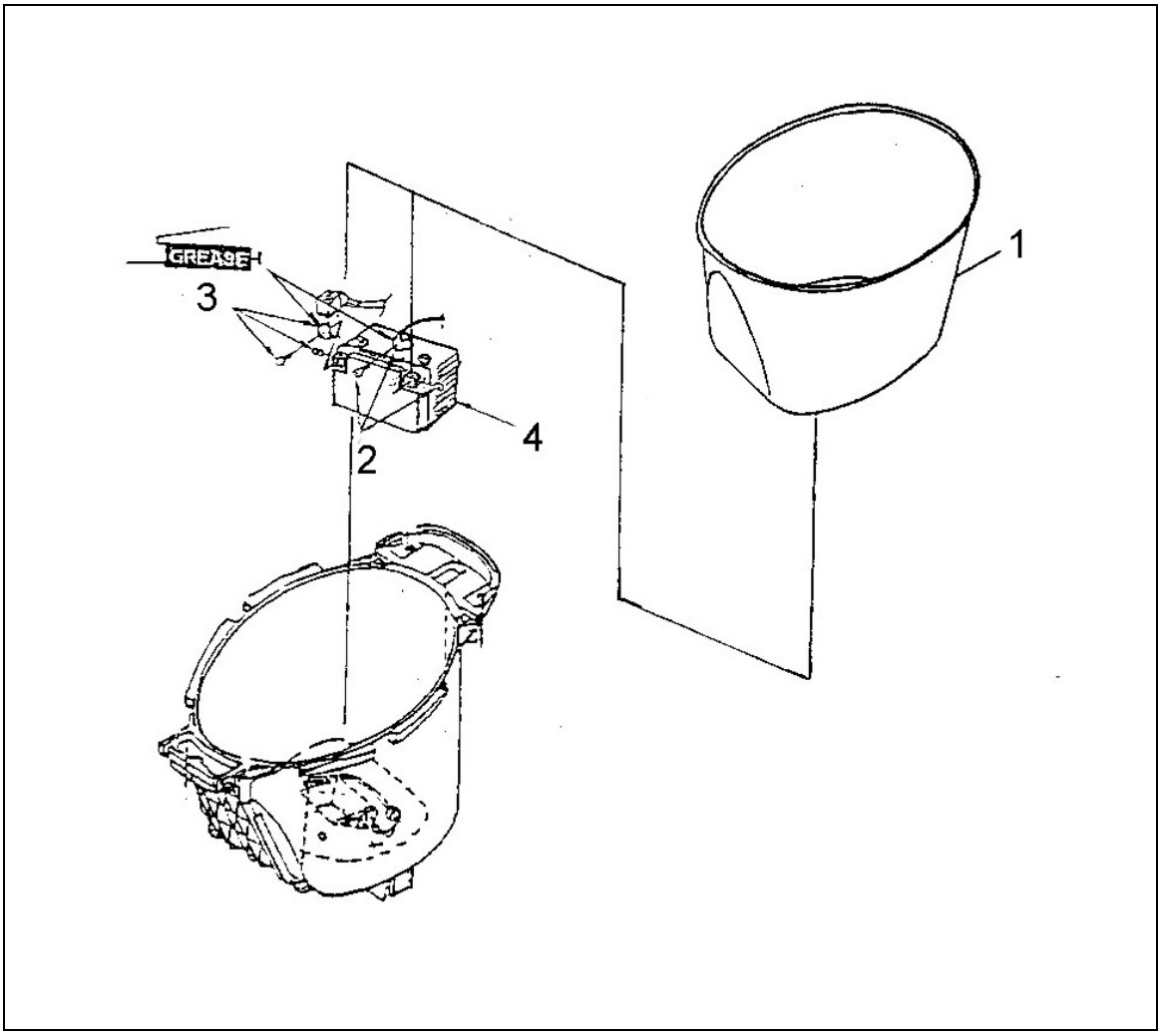
Fuel direction light no working (when without fuel)

- Insufficient battery power.
- Fuse broke.
- Bad main switch.
- Bad gage.
- Bad switch of fuel height.

Flashing fuel direction light

- Loose connection head.
- Guide wires broke.
- Poor action of float.
- Poor fuel gage.

Disassembly Of Battery



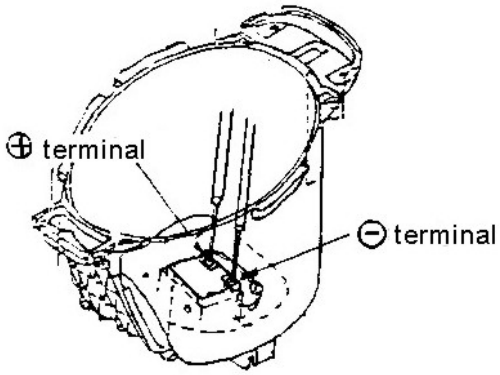
	Operation / Parts name	Q'ty	Remarks
	Disassembly		
1	Helmet box mat	1	
2	Battery – end	1	
3	Battery ⊕ end	1	∗ ***WARRNING:*** Disassembly battery
4	Battery	1	from – end to ⊕ end.
	Assembly		• Assembling with sequence in reverse of disassembly.
	4→1		∗ ***WARRNING:***
2	Battery terminal		Connect ⊕ end first , next – end

Check Voltage of Battery

- Remove helmet box mat and battery cap , disassembly connection wires of battery , check voltage between battery terminals.

  Charging sufficiently : over 12.8 V

  Charging insufficiently : 11.5-12.8V



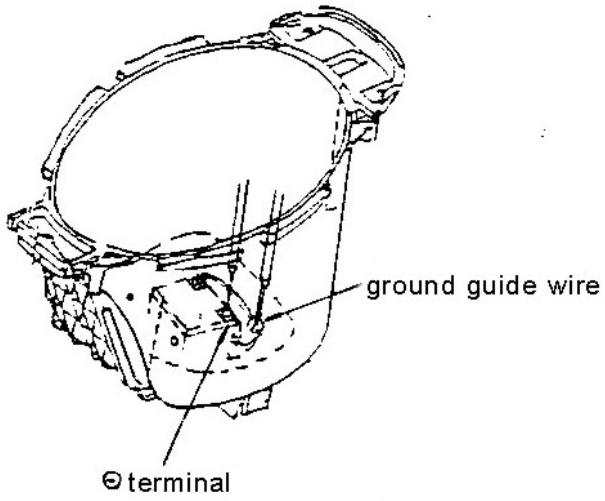
∗ ***WARNNING:***

Must check battery voltage with digital voltmeter.

Check Charging System

Power leakage test

- Disassembly ground guide wire from battery after turning “OFF ” main switch, next, connect voltmeter to the end between terminal (–) & ground guide wires.
- Check voltage when main switch is “OFF ”.



∗ ***WARNNING:***

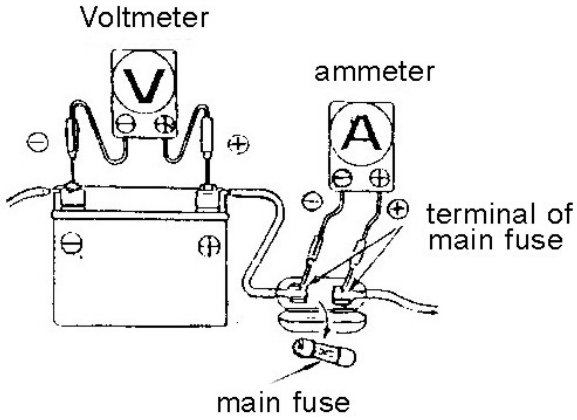
- Check voltage according to sequence from big to small.
- Voltmeter’s fuse will be broke when check voltage over the under limitation choosed.
- No turn “ON” main switch when check current.

Current Leakage : under 1 mA

Check Charging Status

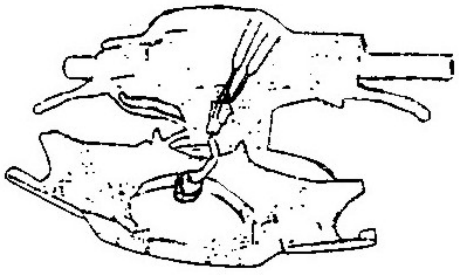
＊***WARNNING:***

- Voltage will have big change following the charging status of battery in this check, so, must check with charging completely, over 12.8 V.
- There will produce big current due to start-will consume the power in battery.



- Assembly voltmeter to terminal of main fuse, start engine, open light, rise running amount, and check charging voltage & current.
  Charging current : 1~2 Amp/5000rpm
  Voltage of charging control:
  14~15V/5000rpm

Check Voltage of Front Lighting Control



- Disassembly front covering of handle.

＊*WARNNING:*

Check head light which wires connecting.

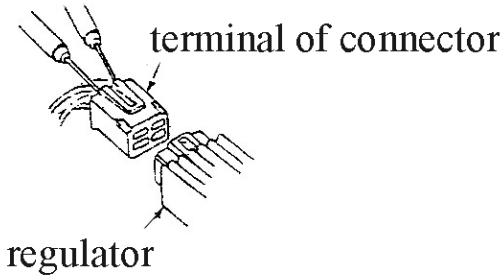
- Start engine, turn “ON“ light switch, open high beam.
- Check voltage between green (+) & black (-) guide wires.

ELECTRICAL DEVICE

＊***WARNNING:*** Check in range of AC.

・Check voltage adjuster when voltage Is not in the range controlling.

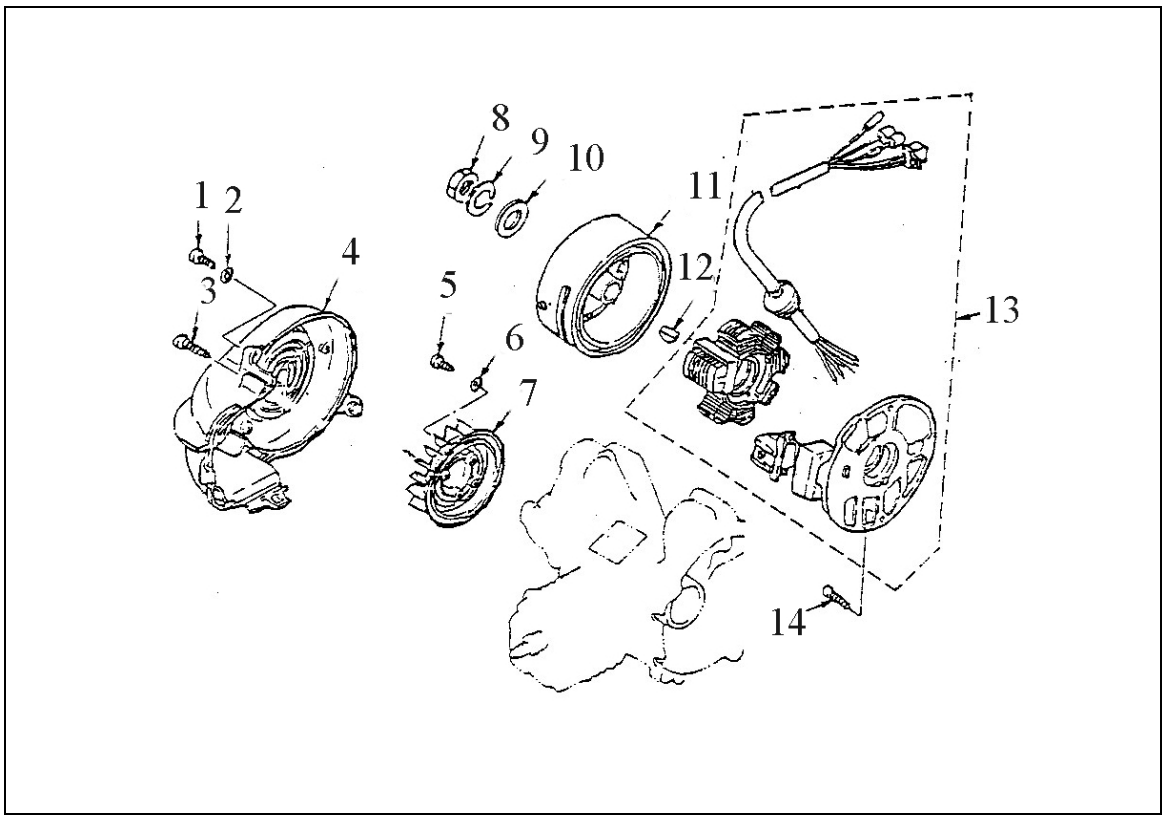
Control voltage: 12~14V/5000rpm



Check Voltage Adjuster

・Check voltage adjuster.
・Disassembly connection head of voltage adjuster.
・Check return of wiring edge connection head.

Disassembly of ACG



ELECTRICAL DEVICE

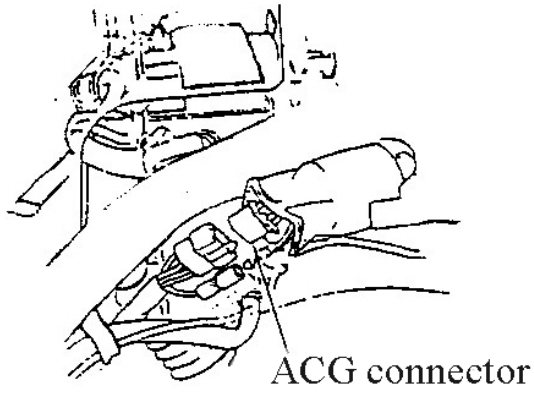
	Operation / Parts name	Q'ty	Remarks
	Disassembly		
1	Hexagon socket bolt	2	
2	Plain washer	2	
3	Self-tapping screw	1	
4	Cap of electric disc	1	
5	Hexagon socket bolt	4	
6	Plain washer	1	
7	Fan	1	
8	Hexagon nut	1	
9	Spring washer	2	
10	Plain washer	1	
11	Fly wheel of generator	2	
12	Semi-cycle of electric disc	1	∗ ***WARRNING:***
13	Whole body bolt	1	Take the good care, no hurt coil.
14	Hexagon socket bolt	1	
	Assembly 14→1		• Assembling with sequence in reverse of disassembly.

ACG (Charging Coil) Check

f ***WARNNING:***

Checking in the engine connected With start motor.

- Disassembly ACG connection.
- Check resistance of charging wire & lighting wire.



- Standard valve (20℃)

Charging wire : 0.2~1.0

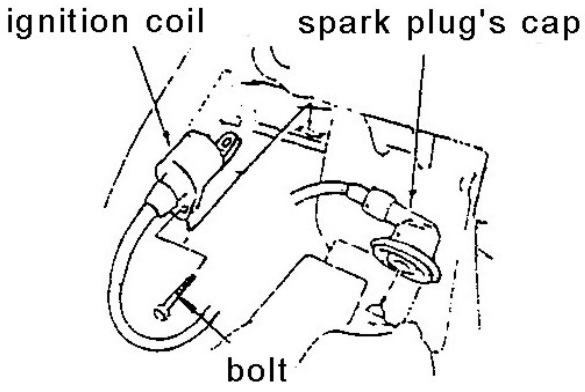
Lighting wire: 0.1~0.8

ELECTRICAL DEVICE

Ignition Coil

Disassembly

- Disassembly spark plug cap.
- Separating cable, disassembling installed bolt, then, disassembly ignition coil.



Assembly

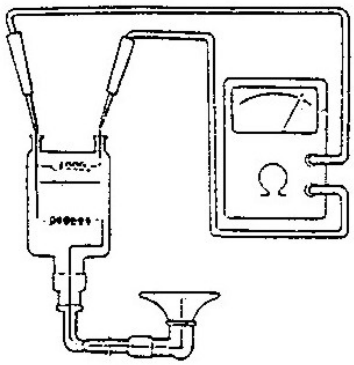
- Assembly with sequence in reverse of disassembly.

＊***WARNNING:***

Guide wire must be installed in the right place.

Conduction Test

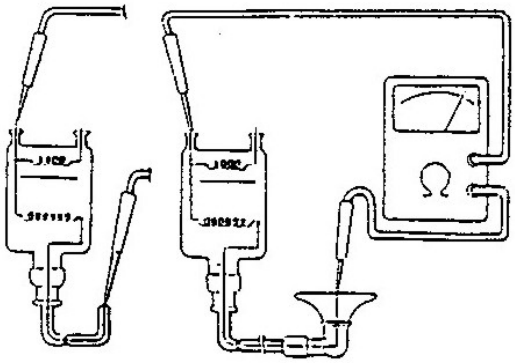
- Check once coil resistance of ignition terminal.
  Standard valve (20℃): 0.3~0.5Ω



＊***WARNNING:***

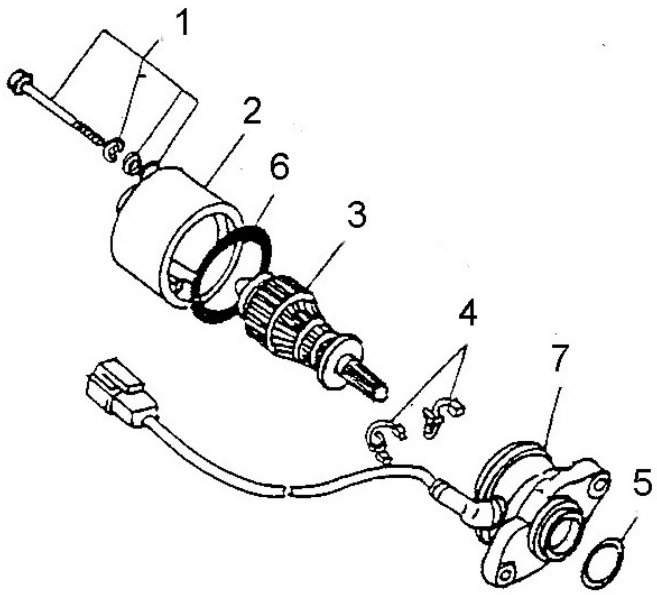
Check ignition status with performance tester due to this test has its own stanard.

- Check twice coil resistance between spark plug cap & (-) terminal.
  Standard valve : 9.5~11 kΩ
  (spark plug cap in team)
- Remove spark plug cap from high Voltage coil.
- Check twice coil resistance between. high voltage & (-) terminal.
  Standard valve : 5~7 kΩ
  (without spark plug cap)



Assembly / Separation of Starting Motor

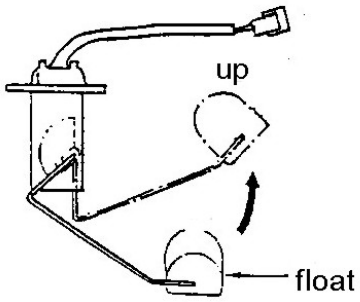
• Disassembly of starting motor.



	Operation / Parts name	Q'ty	Remarks
	Separation		
1	Bolt set	2	
2	Casing	1	
3	Armature rotor	1	
4	Carbon brash	2	
5	Oil ring	1	
6	Oil ring	1	
7	Front fixed seat	1	
	Assembly 7→1		• Assembling with sequence in reverse of disassembly.

ELECTRICAL DEVICE

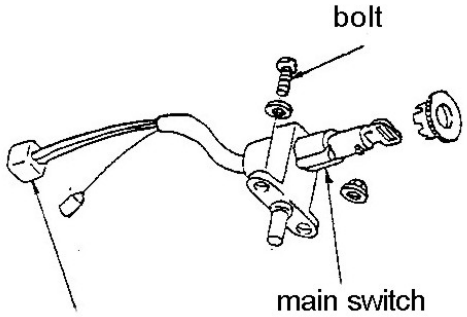
Check Fuel Gage



- Remove fuel gage.
- Put the float to up end down end to check the resistance between each terminal.

Terminal of Guide wire	Up end of float	Down end of float
Green & black	0~20Ω	90~110Ω

Check Main Switch



connection head of main switch

- Remove connection of main switch guide wire, check conductivity between each terminal.

Color	tea	black/ red	black	red
LOCK		○——	——○	
OFF		○——	——○	
ON	○——	——	——	——○

Exchange

- Remove front covering.
- Remove 2 bolts, disassembly main switch.
- Installing with the sequence in reverse of disassembly.

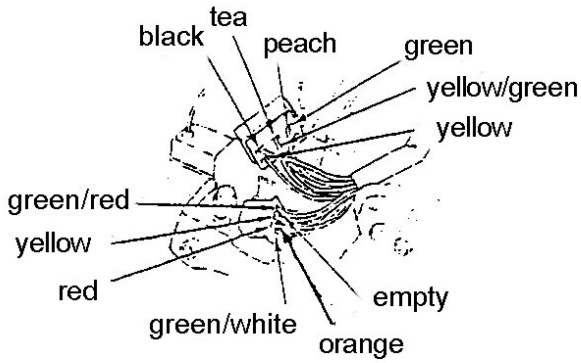
Check switch of handle

- Remove front covering.
- Disassembly connection of handle switch, check conductivity between each terminal.

ELECTRICAL DEVICE

Switch of Lights

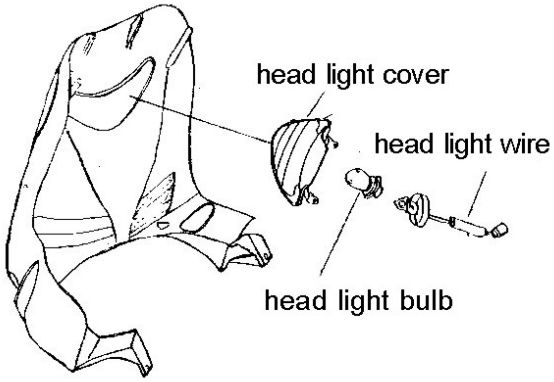
Color	Yellow/red	Blue
OFF		
ON	○———	———○



Power Switch

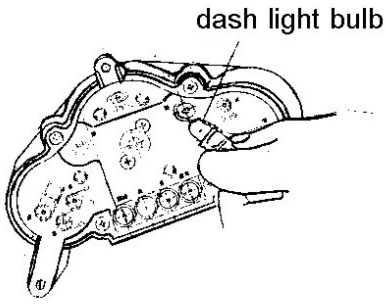
Color	blue/white	Black
Up		
Down	○———	———○

Exchange of Bulbs



Head light bulb

- Remove front covering of handle press down the connection and turn it to change head light bulb.

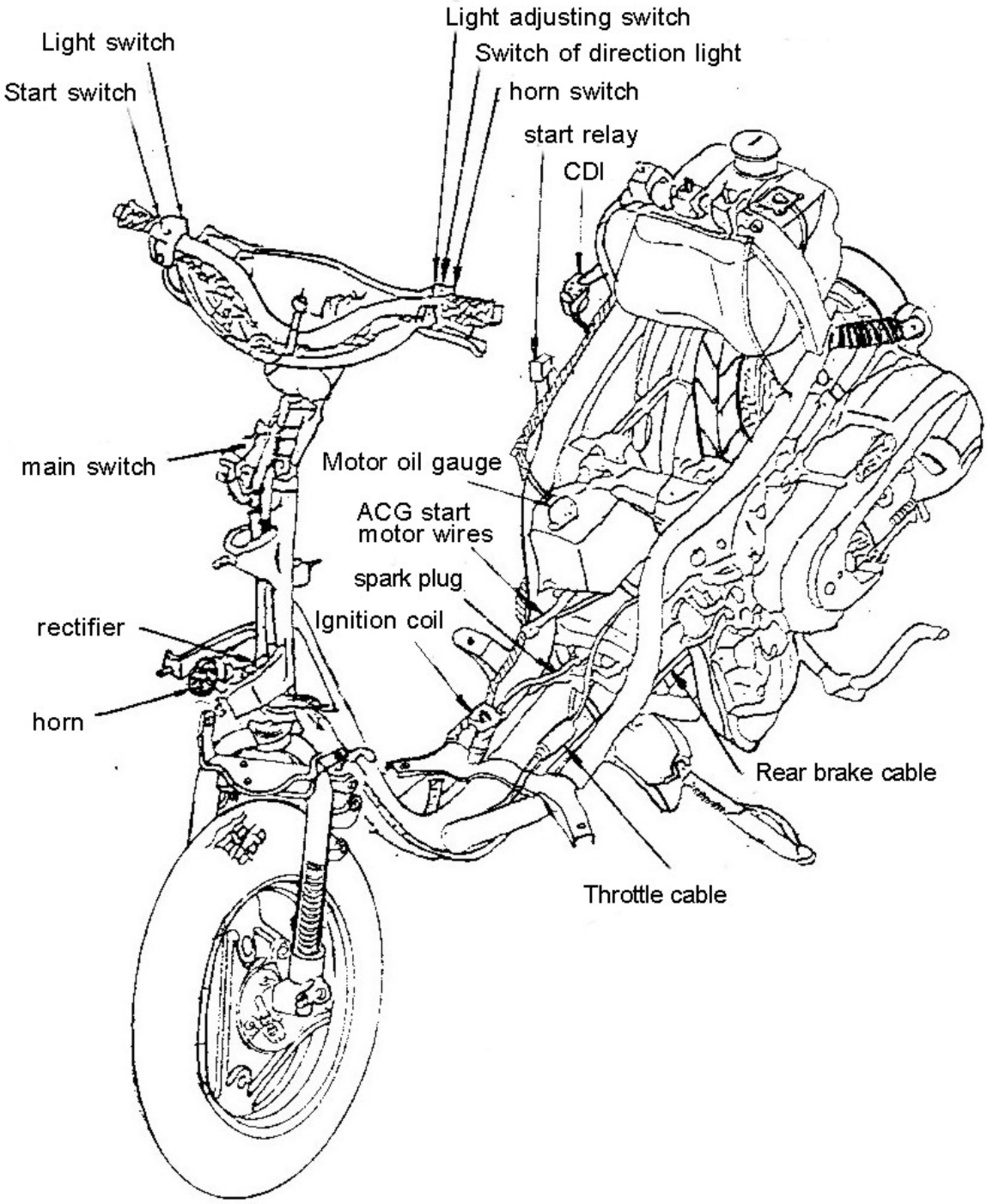


Dash light

- Remove rear covering of handle pull out the connection of bulb, and replace the bulb.

ELECTRICAL DEVICE

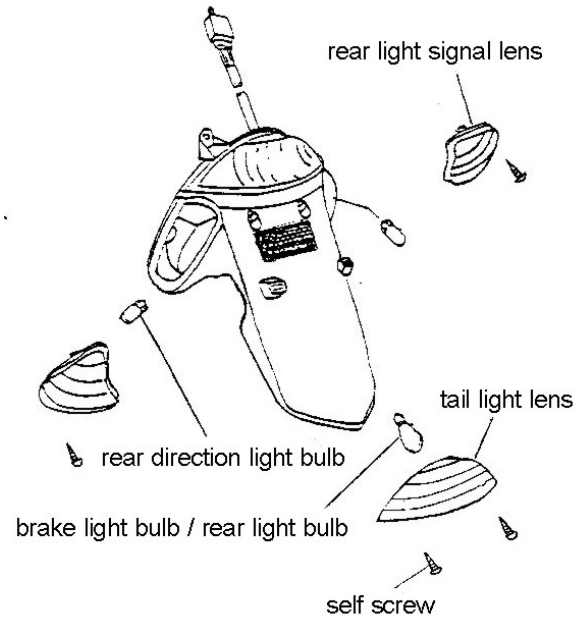
Solid Wiring Diagram



ELECTRICAL DEVICE

Rear light / Brake light / Rear direction light bulb

- Remove 2 screws, pull out the light Covering to front, disassembly hook on light / brake light covering, and disassembly light covering of direction light and bulb, finally change bulb.



MENO

ST50/100 WIRING DIAGRAM